

# Preservation Enclosures

Hedi Kyle

Fragile, rare, damaged or deteriorated books and related communication formats found in libraries and archives will to some extent be protected from environmental hazards if they are housed in preservation enclosures. Today this is one of the important practices in library preservation. Many more items can be dealt with in a growing state of emergency, as compared to single item treatment.

Often such a solution is only a stop gap on the way to further treatment. On the other hand, not to interfere directly with the physical state of a historical artifact or document, rehousing has become a preferred decision among conservators, curators, and librarians. This attitude grew out of witnessing the effects of misunderstood repairs or rebindings and unsympathetic replacements of original parts. Although such restorations were once carried out with good intentions, they have caused irreversible impairment.

Today we realize that the preservation of recorded information and knowledge is intimately connected with preserving the carriers of word and image as well, and defining their history and evolution from the Babylonian clay tablets to the 20th century micro storage information systems. We want to guard against the disappearance of evidence by retaining original materials in suitable preservation enclosures.

Varieties of these are now available prefabricated from conservation material suppliers. One needs to be alert and investigate the offer in order to decide what is more economical - to buy versus what should be custom made in house. Each library or institution has their own policy in this regard and this policy largely depends on the preservation budget, the size of the preservation staff, and the available equipment.

My presentation reflects the methods we have established at the American Philosophical Society, a library for research of the history of science, medicine, and technology, as well as America to 1840. It houses over 180,000 volumes and bound periodicals, and 6 million manuscripts.

We invested in several pieces of equipment, such as a Vagelli board shear, a Minter ultrasonic encapsulator, a drill press, heat set press, corner rounder, and a grommet punch. We also have access to a photo copying machine and an IBM computer with printer. With such a round up we are able to fabricate enclosures in satisfying numbers, following step-by-step time saving procedures, which have evolved over the years. From time to time we discover that a step can be eliminated, performed more efficiently, or replaced with a better technique.

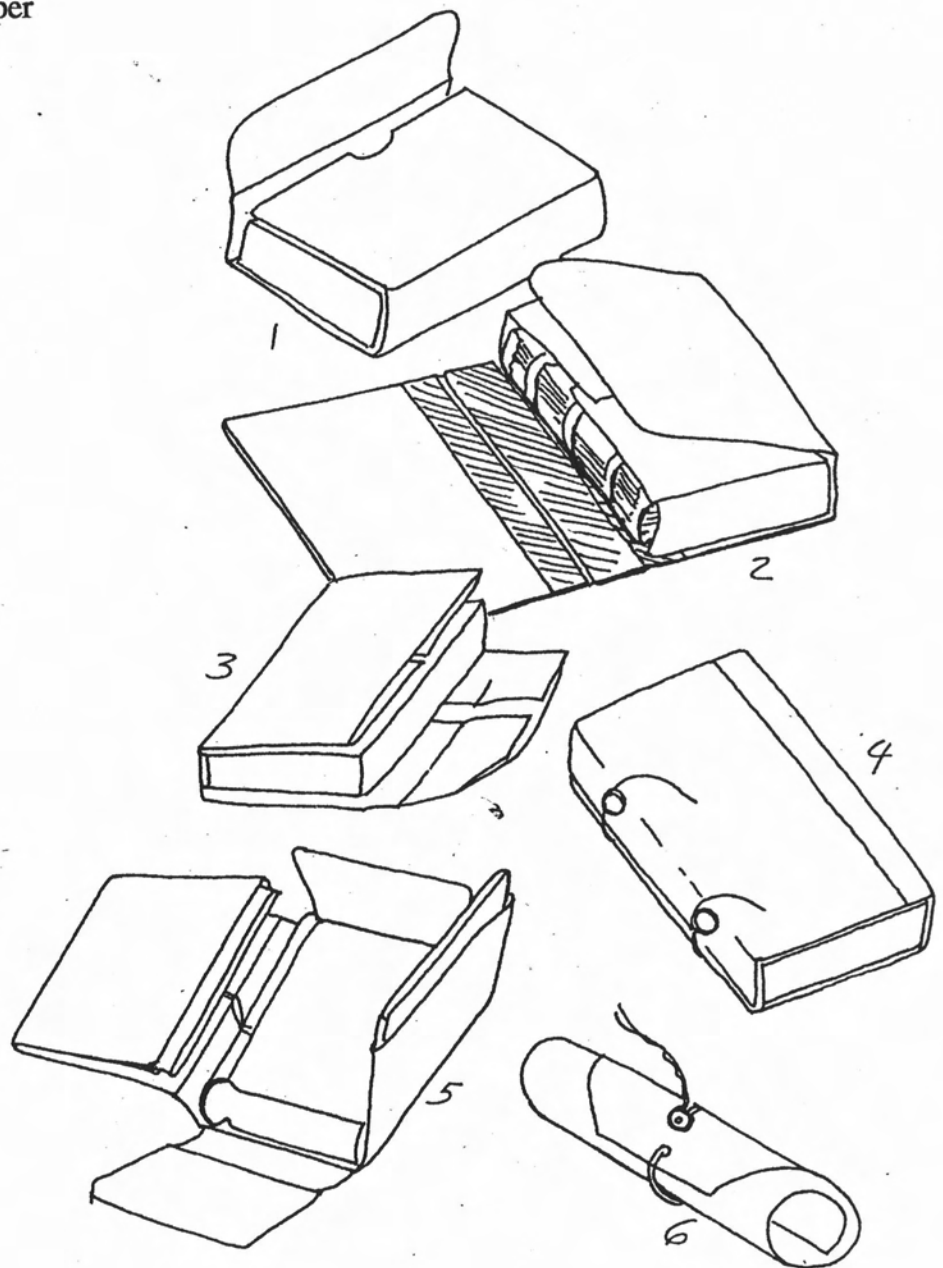
The materials we use are a choice arrived at through experimenting and through trial and error. Here too we are not rigid, but rather check the market continuously as well as recommendations and samples from colleagues.

For the most part our enclosures are simple, utilitarian, and even uniform, at least within their specific groupings. Their aim is to provide good protection, easy access, and sufficient identification of content. There are, however, numerous occasions when special items require specific and uniquely designed carriers. Figuring out and constructing enclosures is by no means a routine, boring activity. It is always a welcomed challenge to accommodate unusual requests.

Good packaging not only enhances the object inside, it also heightens the sensuous pleasure and curiosity to reach it. With this in mind we will now begin to examine a variety of enclosures.

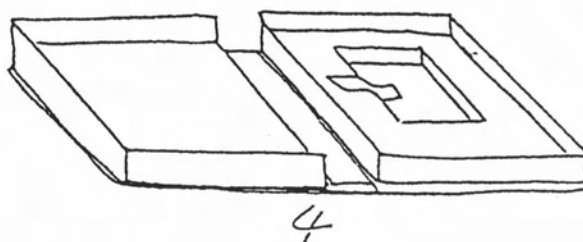
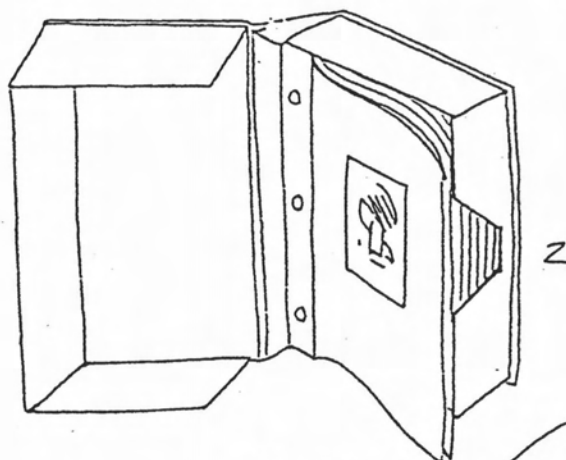
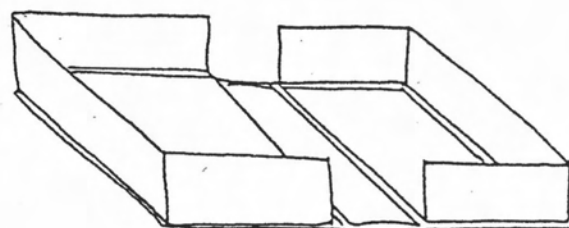
# Wrappers

1. Self closing wrapper
2. Hardcover wrapper
3. Storage wrapper
4. Oversize corrugated wrapper
5. Detached board wrapper
6. Scroll wrapper



# Boxes

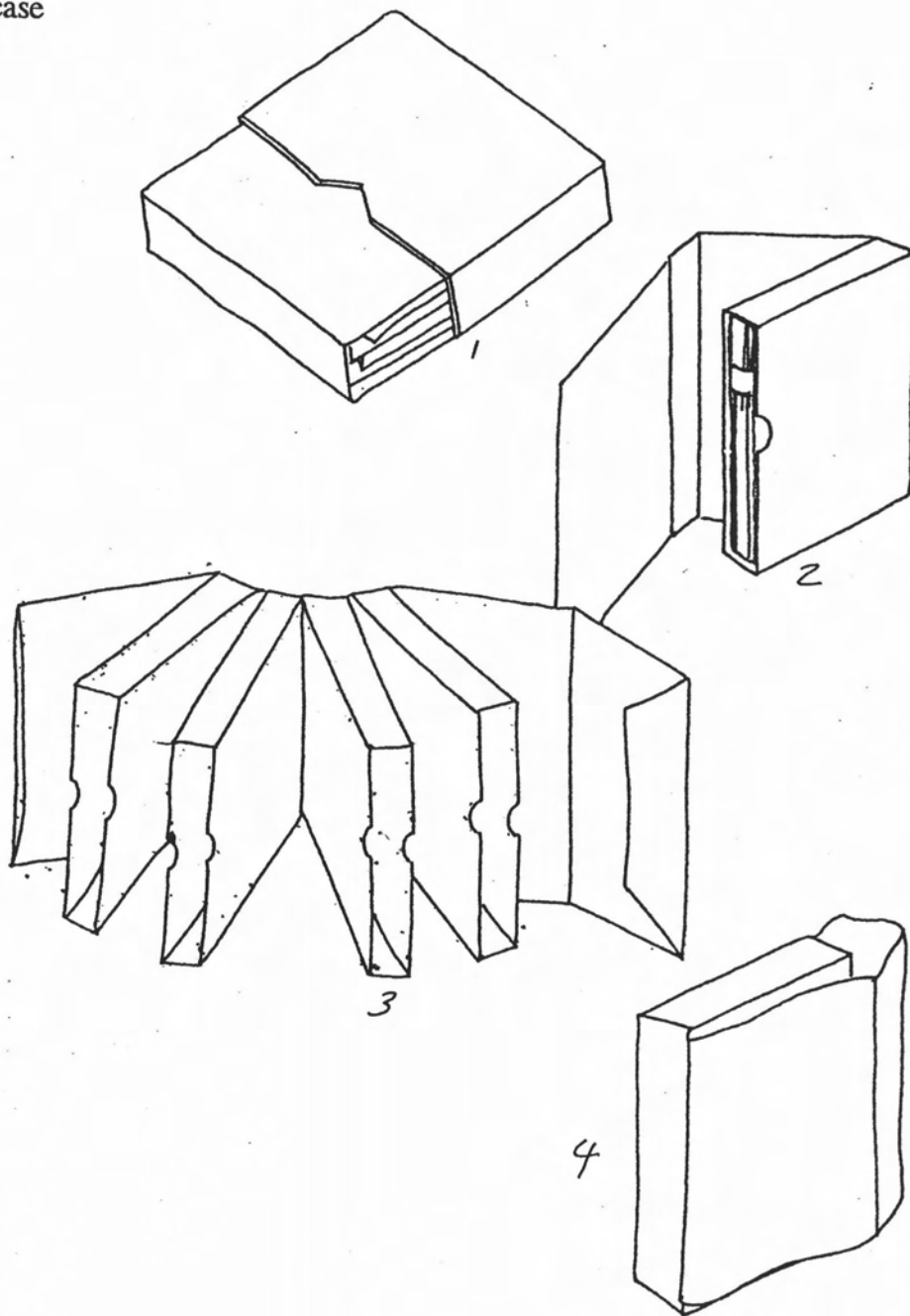
1. Clamshell box
2. Post binder box
3. Wrapper box book
4. Box with inset





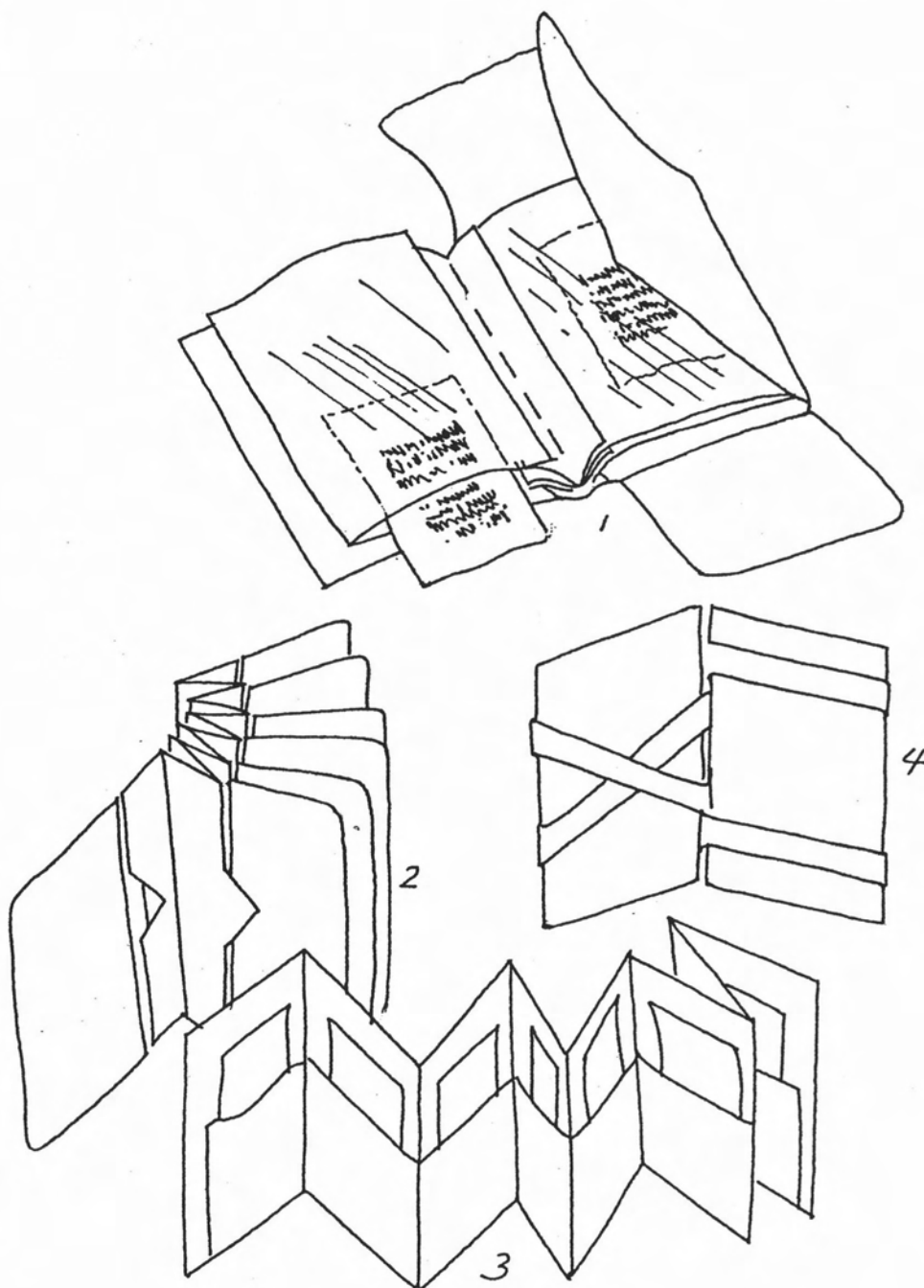
# Slipcases

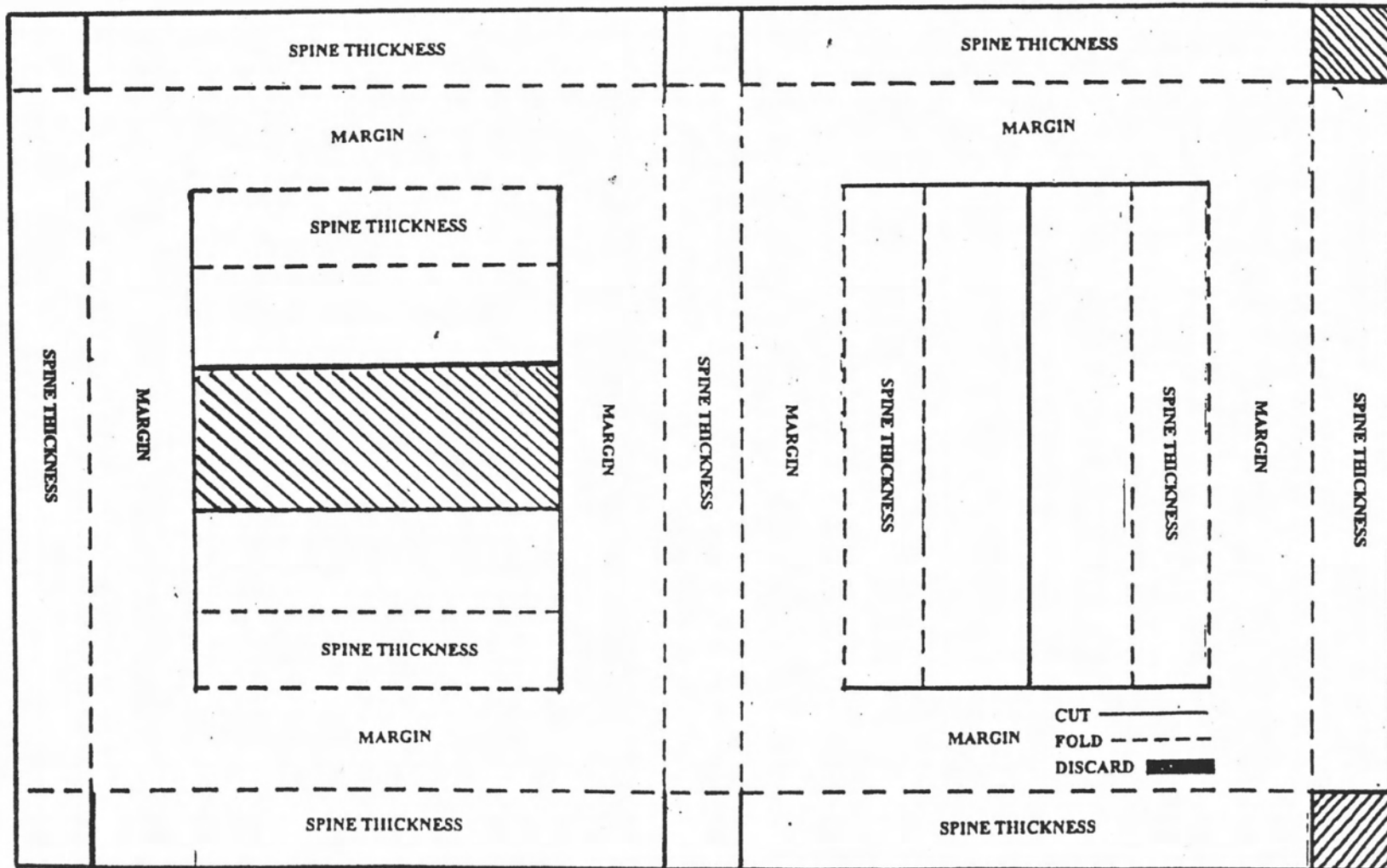
1. Slipcase with chemise
2. Wrapped slipcase
3. Multi-section slipcase
4. Non-adhesive slipcase

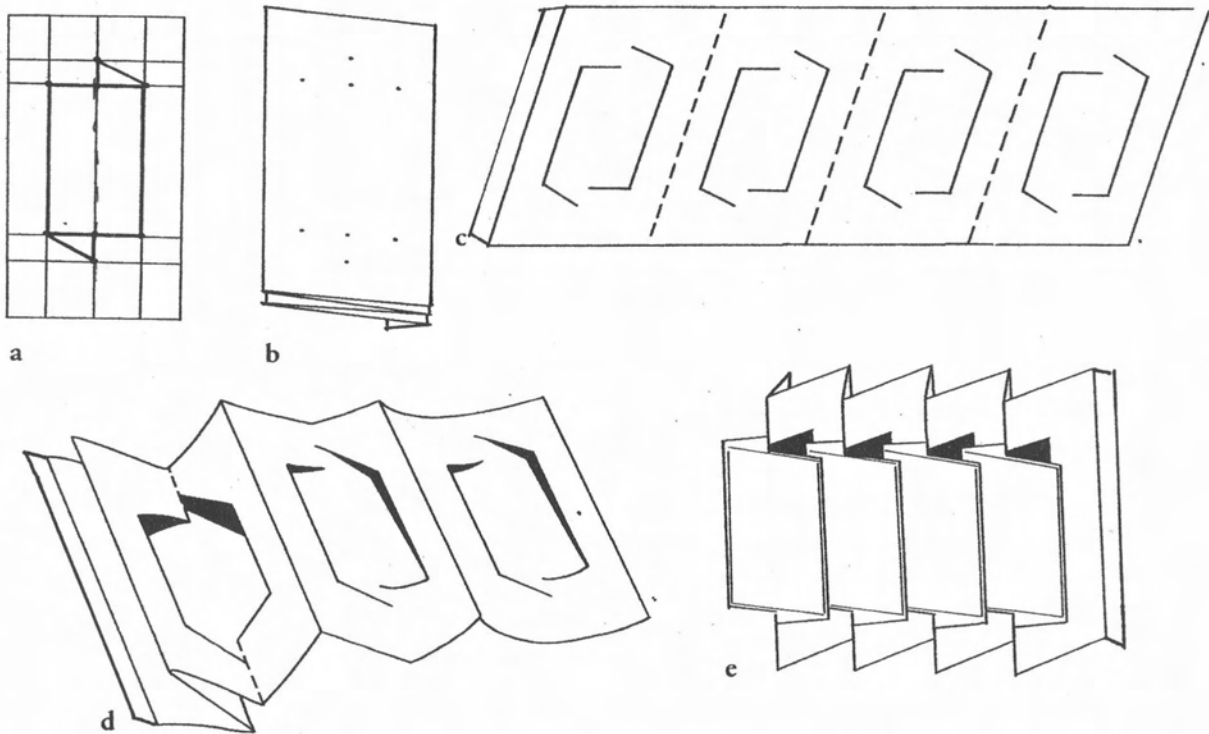
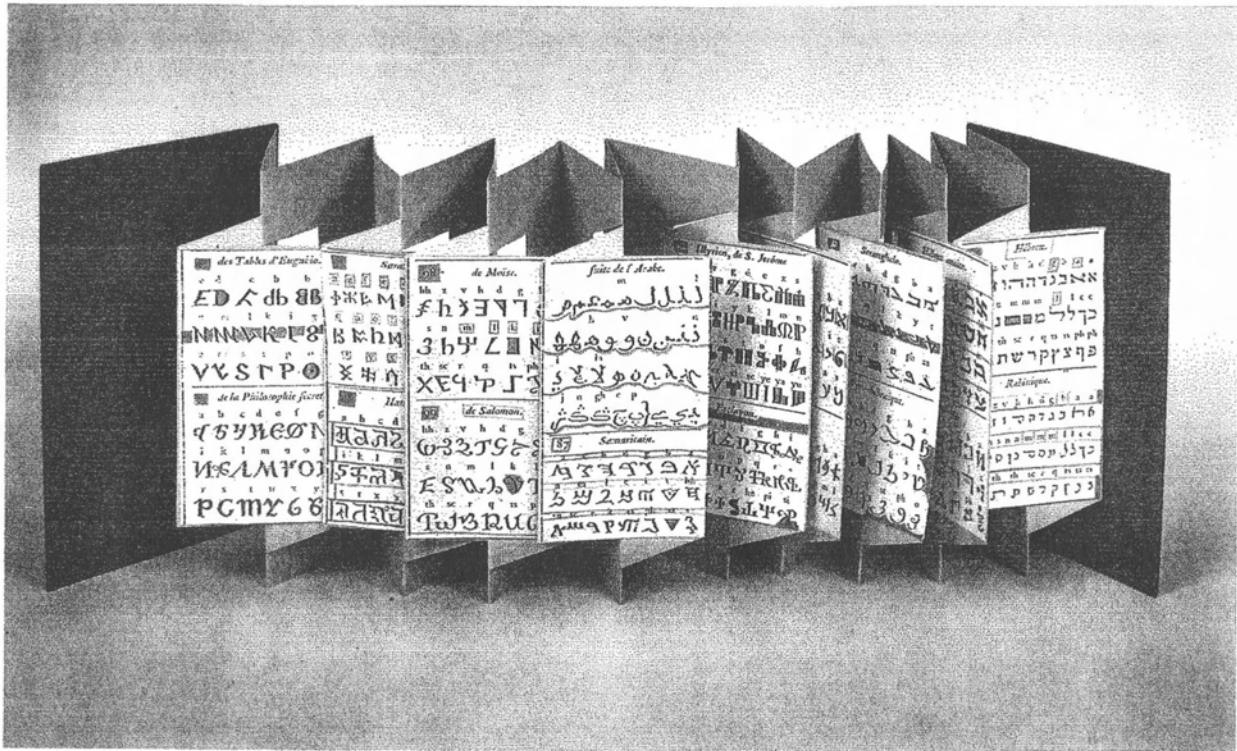


# Folders

1. Document Folder
2. Narrow concertina folder
3. Wide concertina folder
4. Oriental magic folder





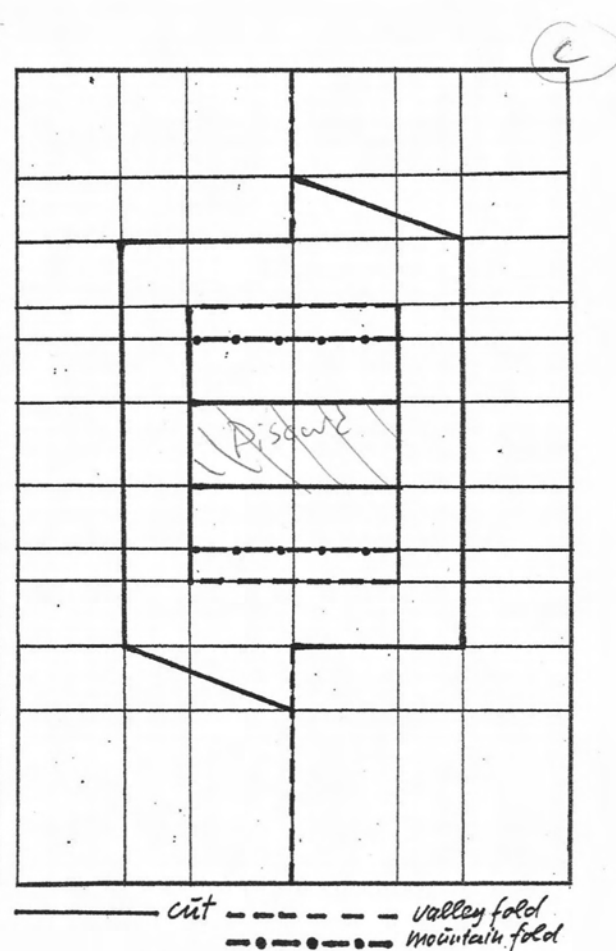
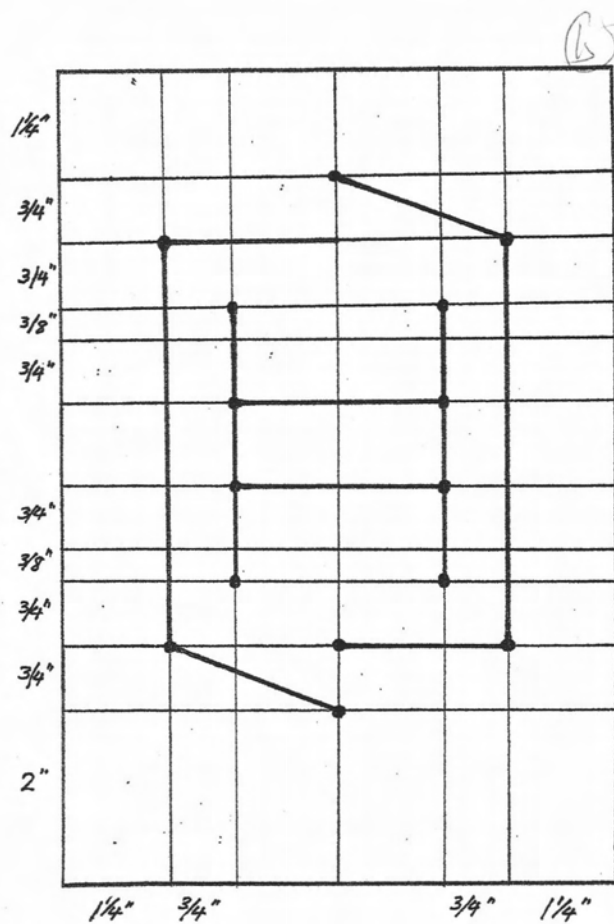
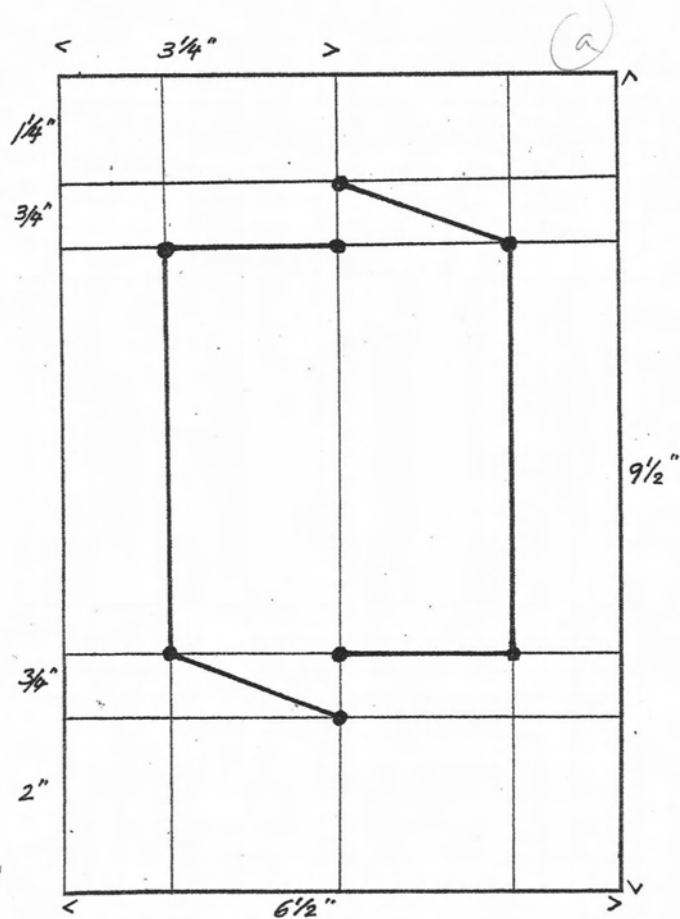


**3 Alphabet Panorama, 1989.** 23.5 × 15 cm. Bristol and various Japanese papers, xeroxed alphabets with added red markings. Cutting and folding produces swinging panels supported by and part of a concertina background. See diagrams a, b, c, d, e.

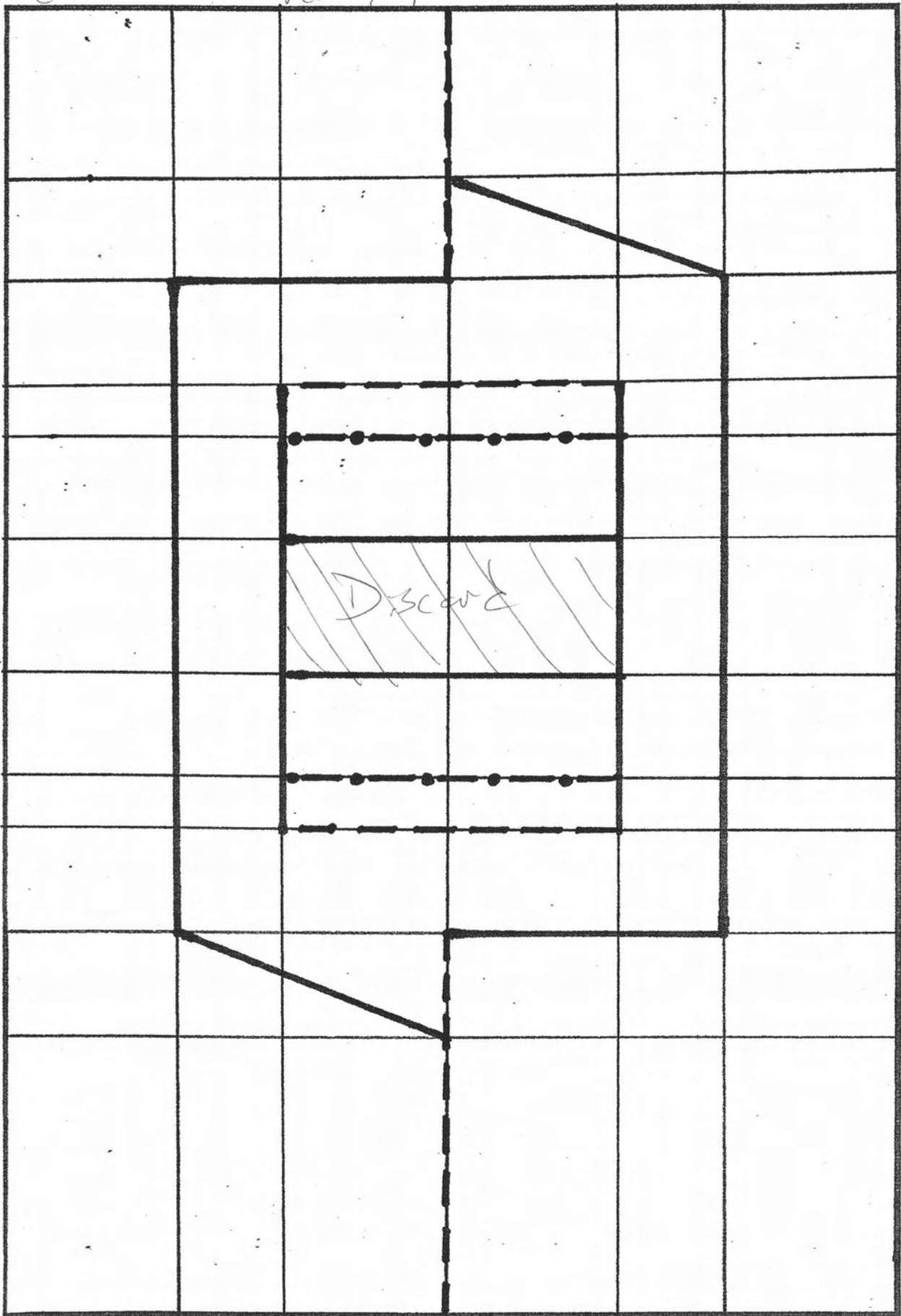
- (a) The shape of the panel is drawn on a piece of card, exactly the same size as one section of the concertina.
- (b) The card is laid on the concertina, and cutting marks are transferred with an awl.
- (c) The concertina is unfolded and each section is cut individually. (Layered cutting result in mirror images of the panels).
- (d) Each section of the concertina is once more folded in half, taking care that the panels will stay flat.
- (e) The panels can be reinforced to at least twice their thickness. This adds to their swinging force and defines the triangular hinges.

# PANEL PANORAMA

Cut out for recessed panel (a)



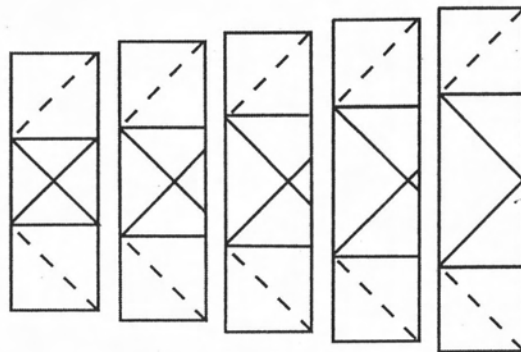
Cut out for recessed panel



— cut — — — valley fold  
— · — · — · — mountain fold

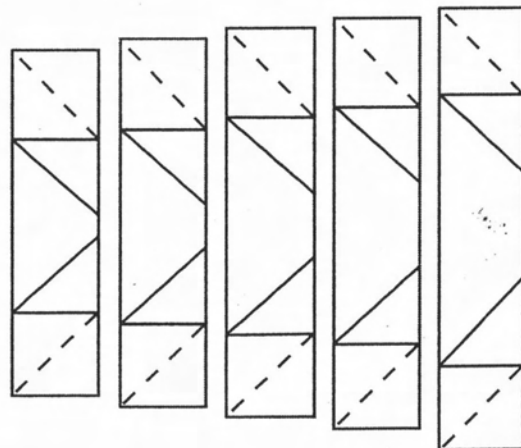
### Variable Proportions of the Blizzard Book

Each part represents  $1/16$  of a strip of paper. The options for the size of the book lie between a three square part and a four square part

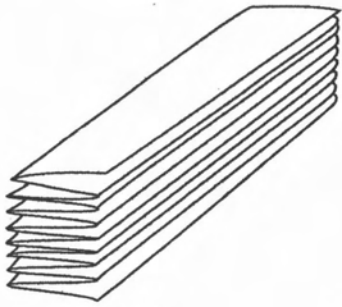
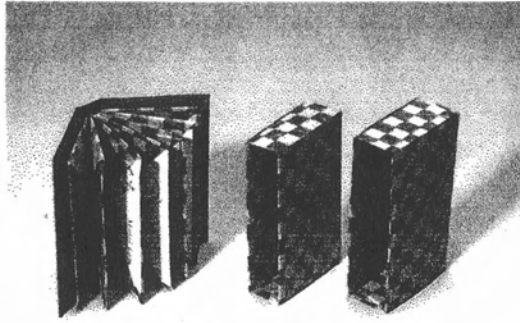


### Variable Proportions of the Crown Book

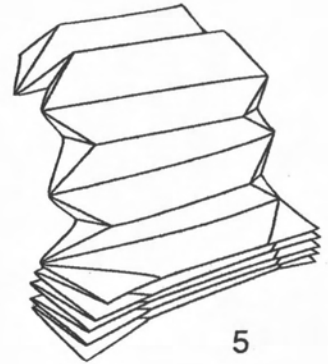
When the parts exceed the four square limit, the folded down triangles no longer overlap or meet. Here the proportions have a wider range.



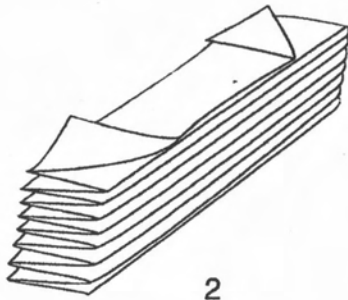
# Blizzard Book



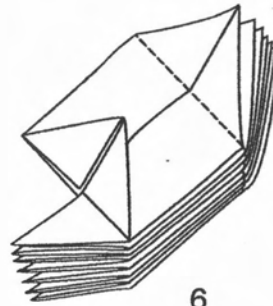
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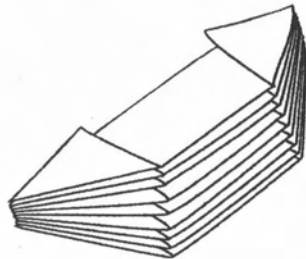
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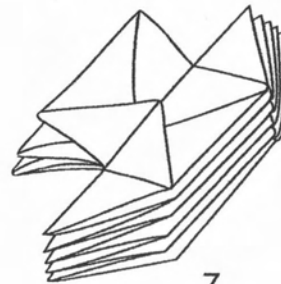
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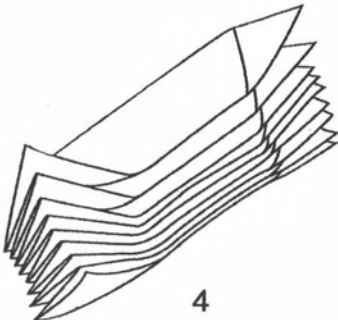
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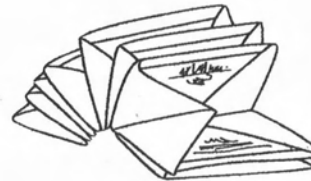
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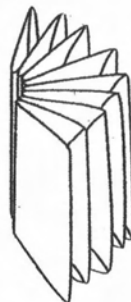
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4



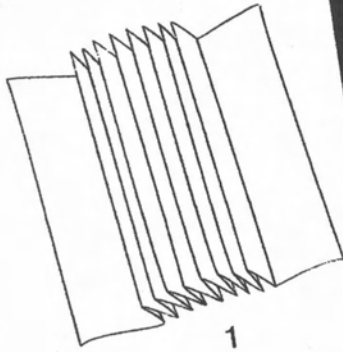
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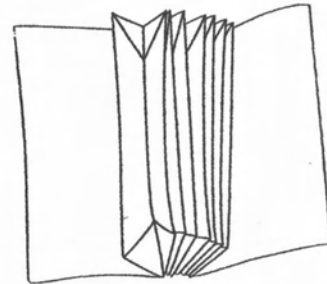
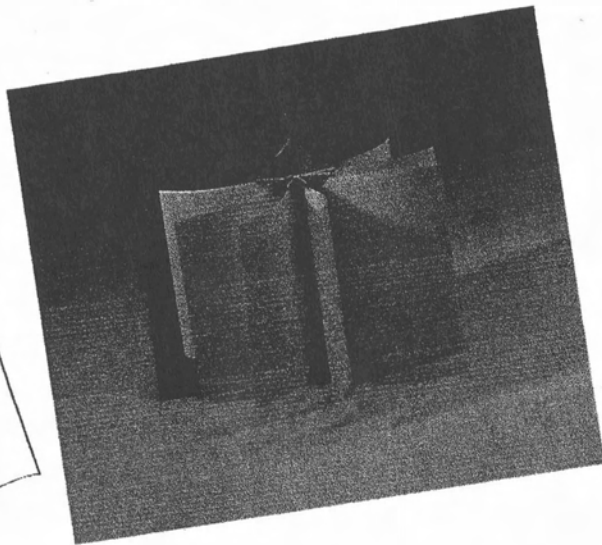
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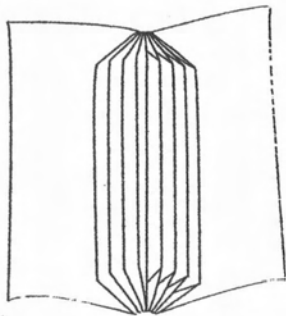
# Crown Book



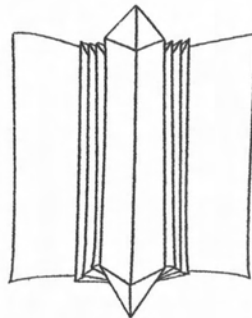
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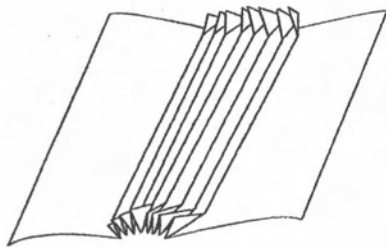
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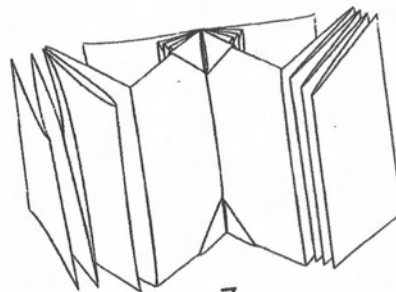
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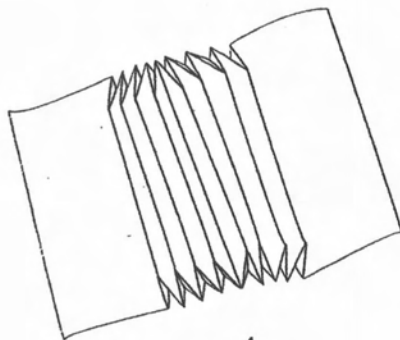
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3



7

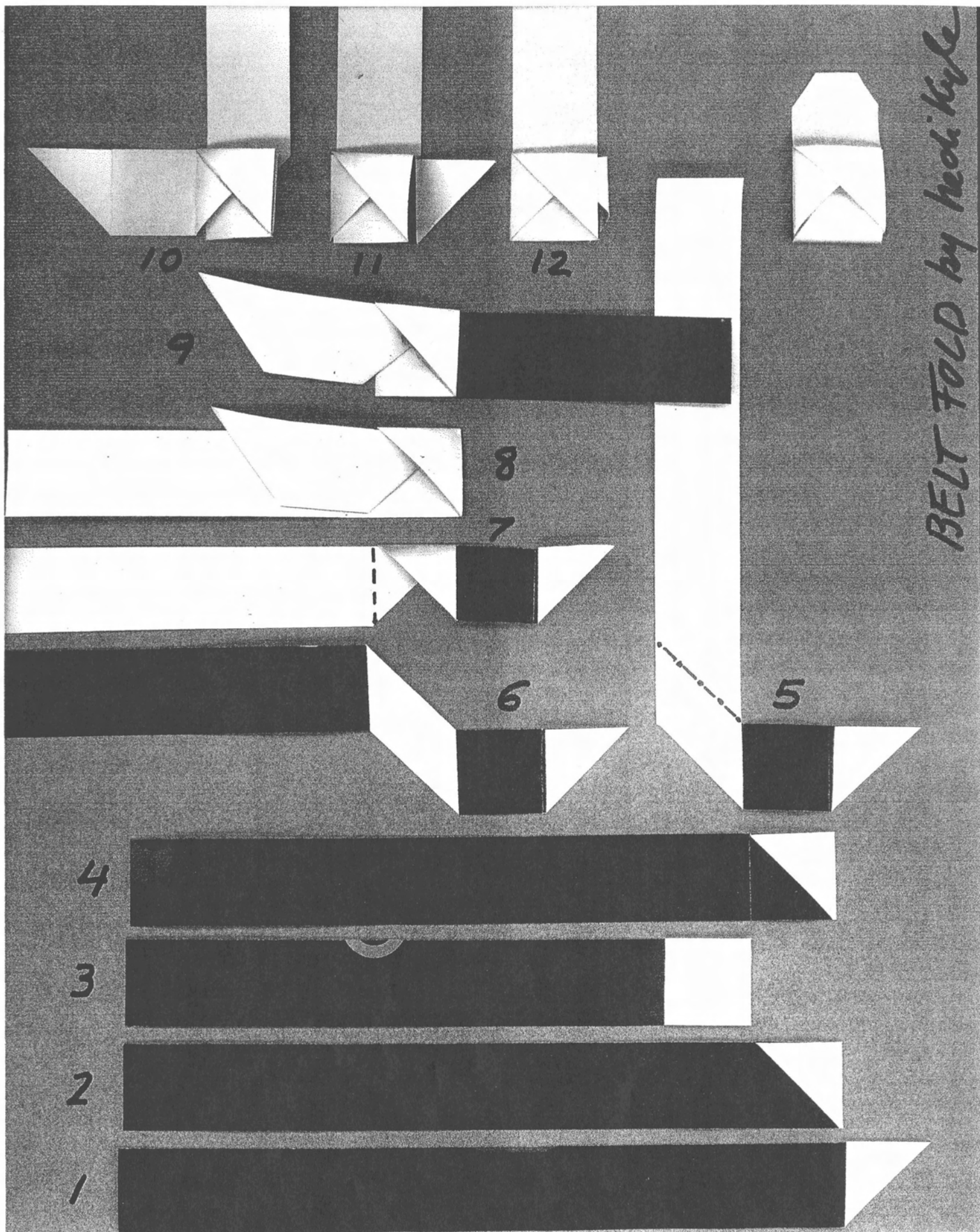


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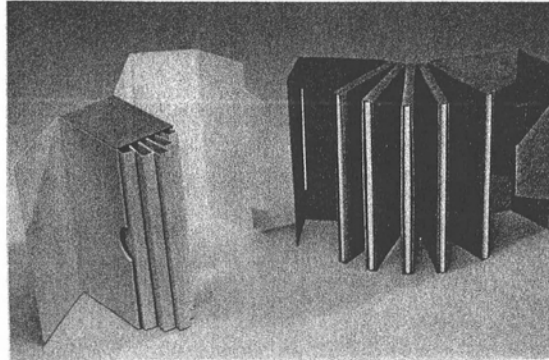


8

*BELT FOLD by hedi kyle*



## MULTI-SECTION SLIP CASE



The Multi-Section Slip Case is designed for light weight books, pamphlets, letters, or postcards. It also serves as excellent organizer for paper and cloth samples.

The following instructions describe how to build a Multi-Section Slip Case. A single case unit can be easily adapted by looking at the diagrams up to step 23.

A chemise or wrapper will provide support for fragile paper objects or pamphlets of variable sizes. It is a good idea to enclose books in a chemise or wrapper as well. They protect and slide in and out of the slip cases with ease. To make such enclosures use the same material as for the side walls of the slip cases.

Each slip case is build either directly around the item you plan to enclose, or a dummy representing it. Wrappers and chemises count as part of the item. To construct a dummy, cut pieces of corrugated card board to the extreme height and width of the item. Stack the pieces to the extreme thickness. Wrap item or dummy neatly in waxed paper and secure with masking tape.

Items of different thickness and height can be accommodated. The cases may vary in thickness. Theoretically their height could also vary. I prefer to insert platforms, put together from scraps of corrugated board. They make up for the missing height. Platforms are covered with the same material as used for spine, head and tail of the cases.

*Hedi Kyle*

## MATERIALS

For side walls: Library Board .020

Substitutes: Folder Stock .020, Marbled Parchment 240 gms, Canford Card 300 gms, thick handmade paper that folds well

For spine, head, and tail strips: Pressboard

Substitutes: Two ply museum board, double thickness of material used for side walls

To cover spine, head, and tail strips: Book cloth

Substitutes: Backed fabric, dyed Tyvek, strong paper

## UTILITY PAPERS:

Waxed paper

Masking tape

Scraps of corrugated board

Newsprint

## ADHESIVE

PVA thinned with water to good brushing consistency

## JIGS

A Small piece of Pressboard used as spacer

B Metal strip (3/4" keystick) used to trace turn-ins

## TOOLS

Paper cutter or cutting mat, straight edge, triangle and knife

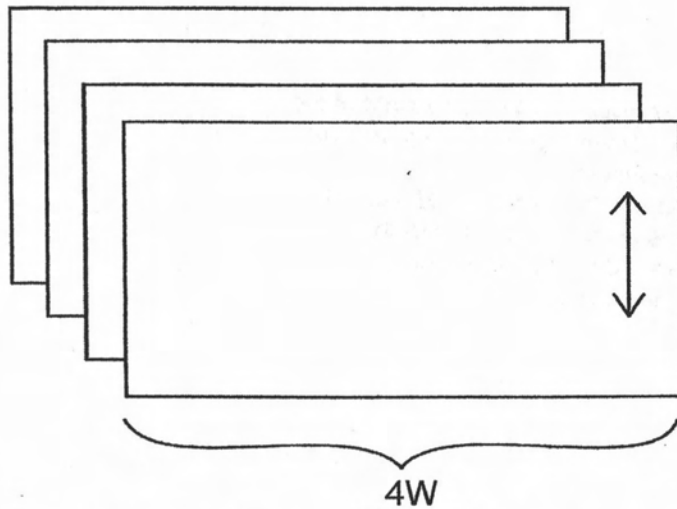
Awl and pencil

Bowl for adhesive, brush, damp paper towels

Bone or Teflon folder, scissors

Pressing boards, weights

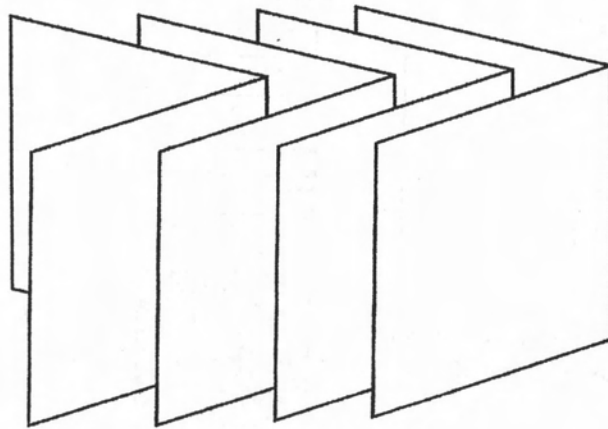
Gouge, mallet (optional)



Working Tip: Score before you fold. Sharpen all folds with your folder.

step 1

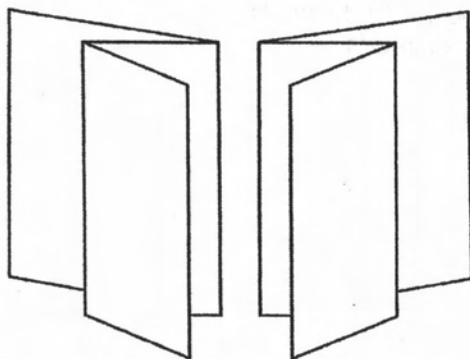
Cut four pieces of Library Board to the height of your wrapped item by four times its width.



step 2

Fold each piece in half.

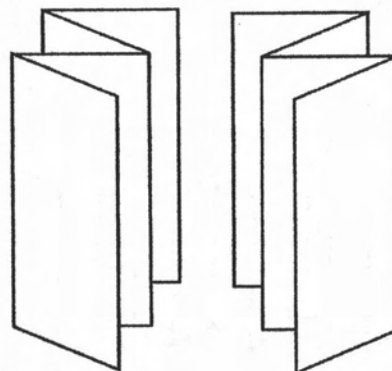
outside wall units



step 3

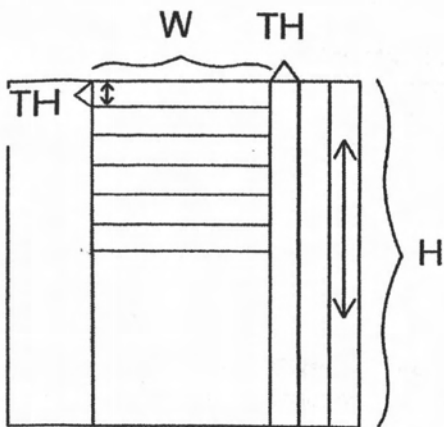
Take two pieces and fold one half of each in half again.

inside wall units



step 4

Take the other two pieces and fold them into quarters.

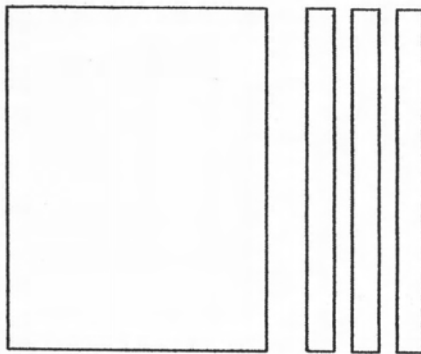


#### step 5

Cut a piece of pressboard to the height of the wrapped item. Make sure that the grain runs parallel to the height.

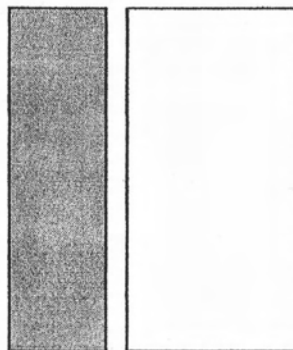
The other side of the piece should measure three thicknesses plus one width of the wrapped item. Add extra for easier handling when cutting.

extra



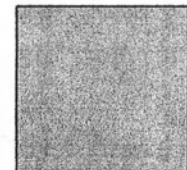
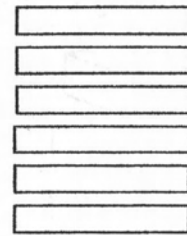
#### step 6

First cut three spine strips to the thickness and height.



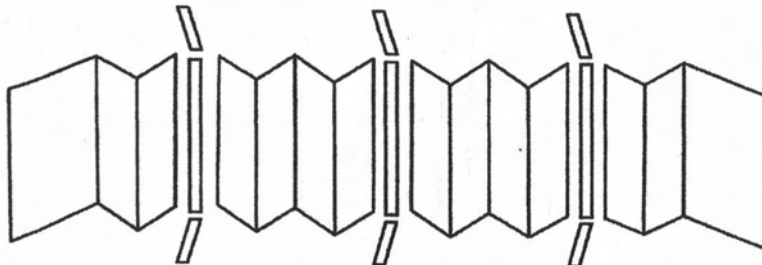
#### step 7

On the left-over piece mark the width and trim off excess.



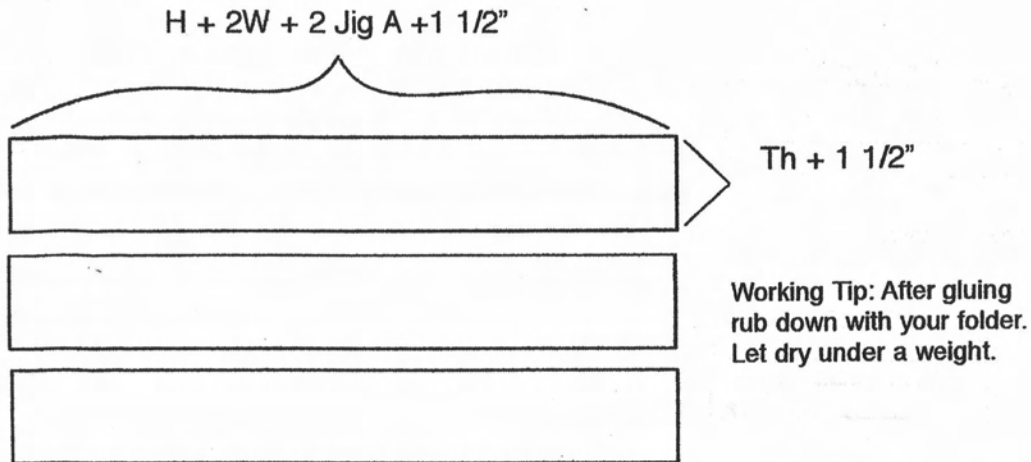
#### step 8

Proceed to cut six strips to the thickness. Three are for the heads and three are for the tails.



Note 1: The above diagram shows the pieces cut so far.



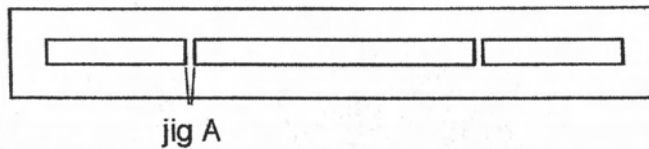


**step 9**

Measure and cut three pieces of book cloth. They should be as wide as the press-board strips plus  $1 \frac{1}{2}"$  and as long as spine, head, and tail strips combined plus two pressboard thicknesses plus  $1 \frac{1}{2}"$ .

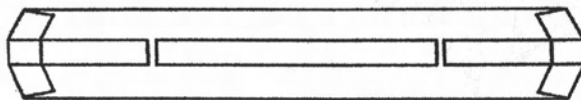
**step 10**

With a pencil trace  $\frac{3}{4}"$  turn-ins on the back of the cloth pieces. Use jig B to do this.



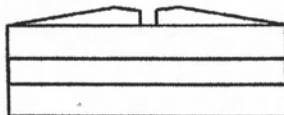
**step 11**

Starting with a short strip glue all three strips down with PVA. Let your pencil lines guide you. Use Jig A as a spacer between the strips.



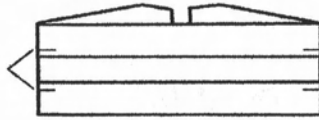
**step 12**

Apply PVA and turn the two short sides of the cloth in. Push the cloth down at a slight diagonal on both sides of the head and tail strips. This will result in a better fit when the case side walls are attached later.



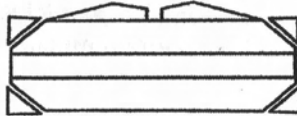
**step 13**

Fold the two short sides to the back



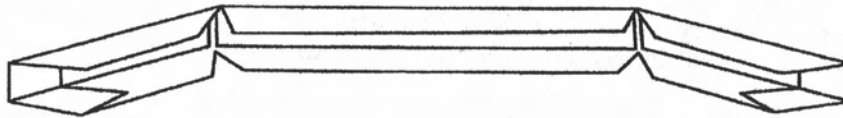
**step 14**

Use Jig A to make marks as shown above.



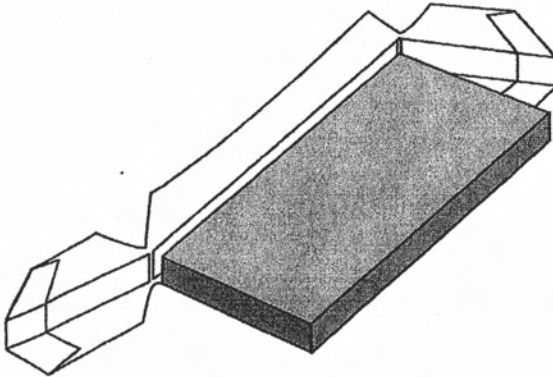
**step 15**

Starting at the marks snip corners off from cloth strip.



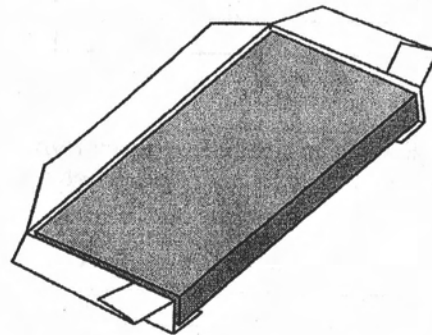
**step 16**

Spread strip out and crease the cloth turn-ins against the pressboard pieces.



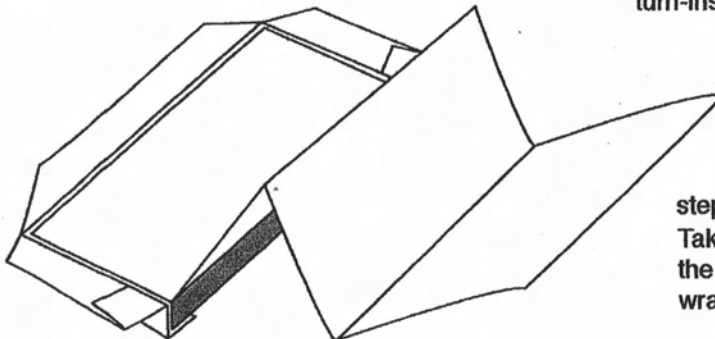
**step 17**

Place the wrapped item against the spine strip.



**step 18**

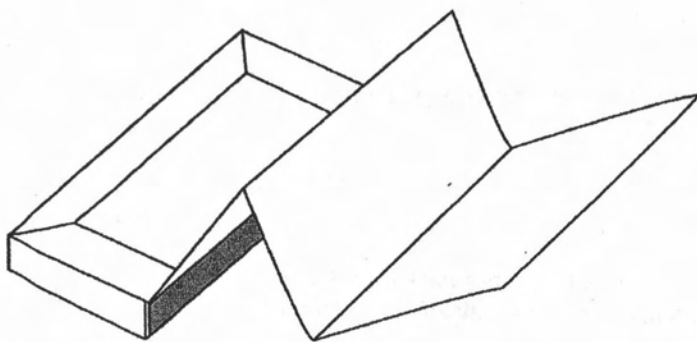
Bring head and tail strips in contact with the item and tuck lower cloth turn-ins underneath.



**step 19**

Take one inside wall unit and place the first quarter on top of the wrapped item.

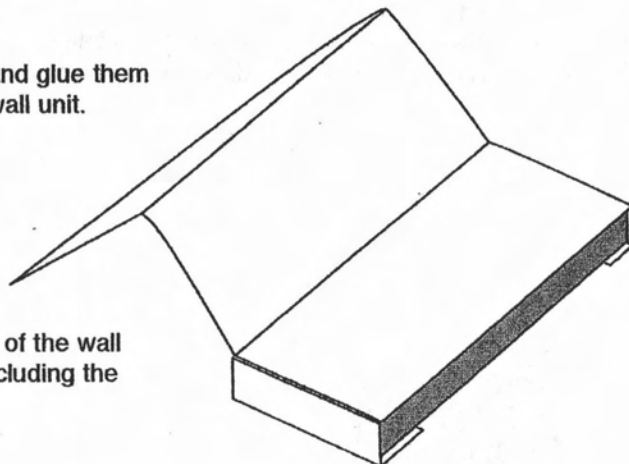




**Working Tip:** After gluing  
rub down with your folder.  
Let dry under a weight.

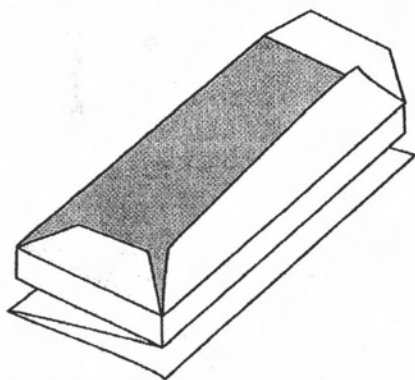
**step 20**

Apply PVA to the cloth turn-ins and glue them  
on top of the first quarter of the wall unit.



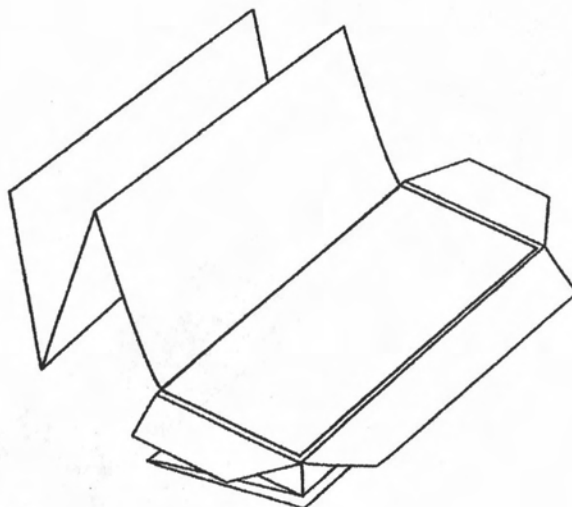
**step 21**

Apply PVA to the second quarter of the wall  
unit. Glue it to the first quarter including the  
cloth turn-ins.



**step 22**

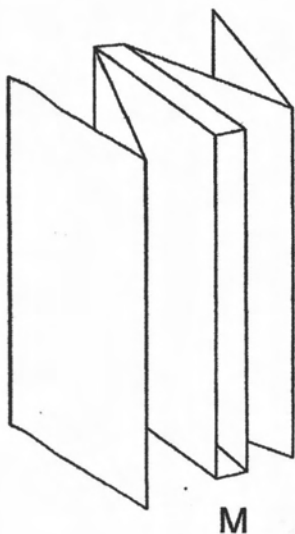
Flip the whole thing over.



**step 23**

Add the second inside wall unit.

**Note 2:** Proceed as in steps 20 - 21.

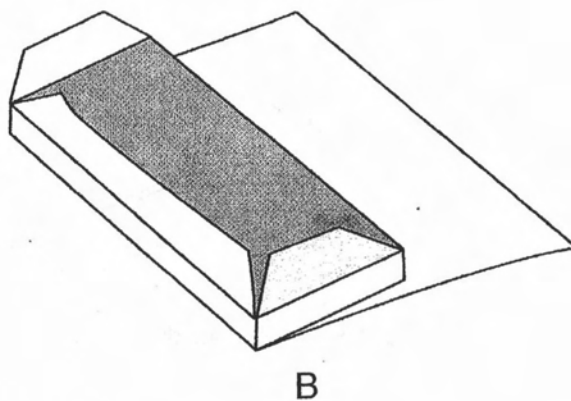
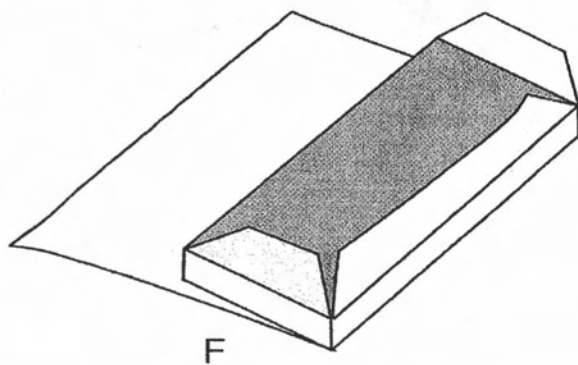


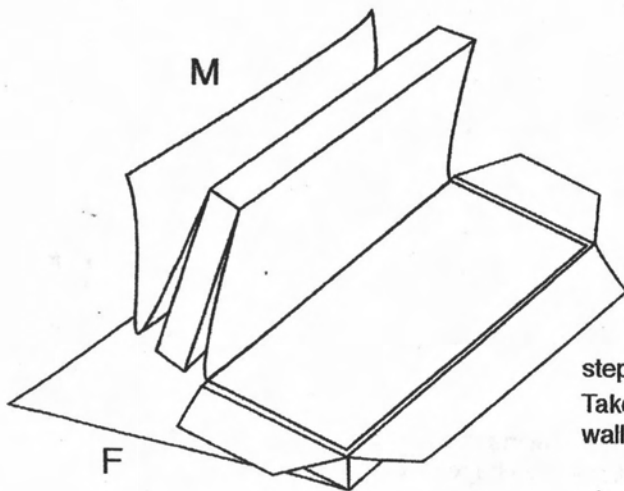
**step 24**

Stand the slip case up and remove the wrapped item.  
You now have middle unit M.

**Note 3:** Construct the front unit F and the back unit B with the remaining two cloth strips and the outside wall pieces (steps 17 - 21).

The outside wall pieces are not folded into quarters.  
The extending unfolded halves allow for a better fit of the cover.





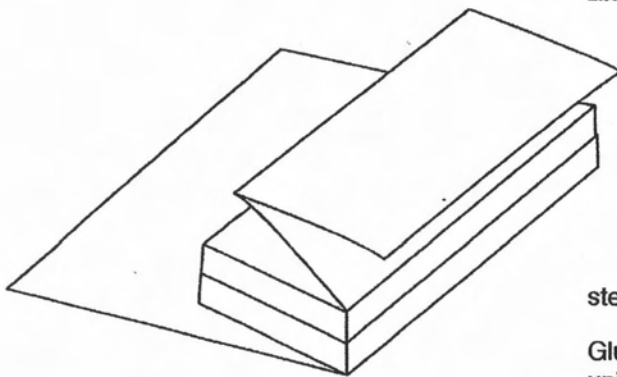
Working Tip: After gluing  
rub down with your folder.  
Let dry under a weight.

step 25

Take unit M and place one quarter of a  
wall on the wrapped package in unit F.

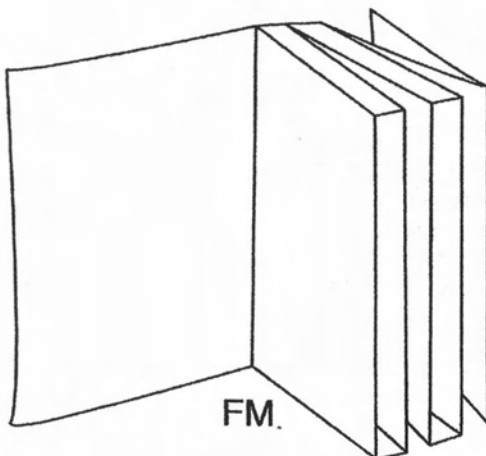
step 26

Glue the cloth turn-ins down.

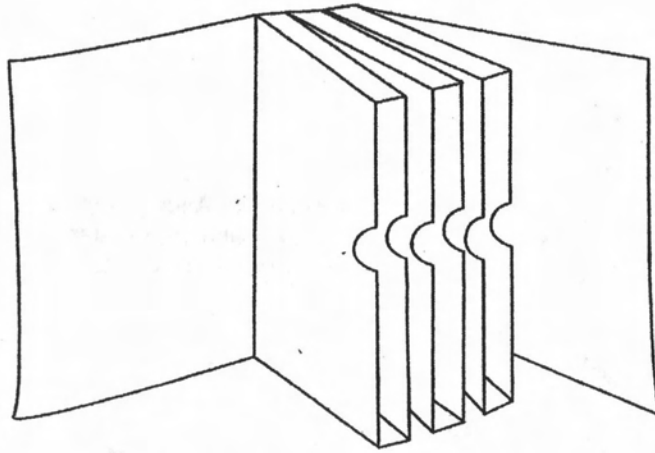


step 27

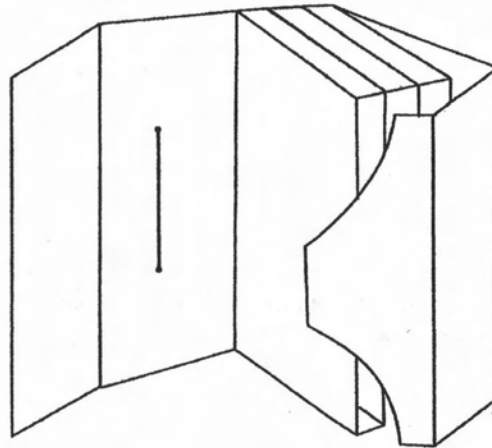
Glue the second quarter of the wall from  
unit M down.



Note 4: Stand the two cases up. This is unit FM.

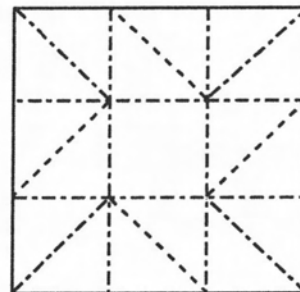
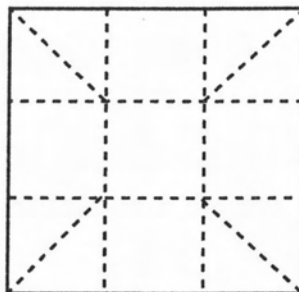
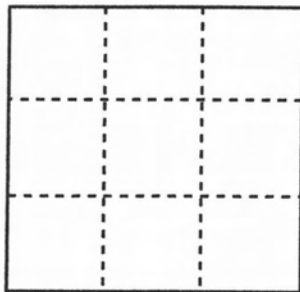
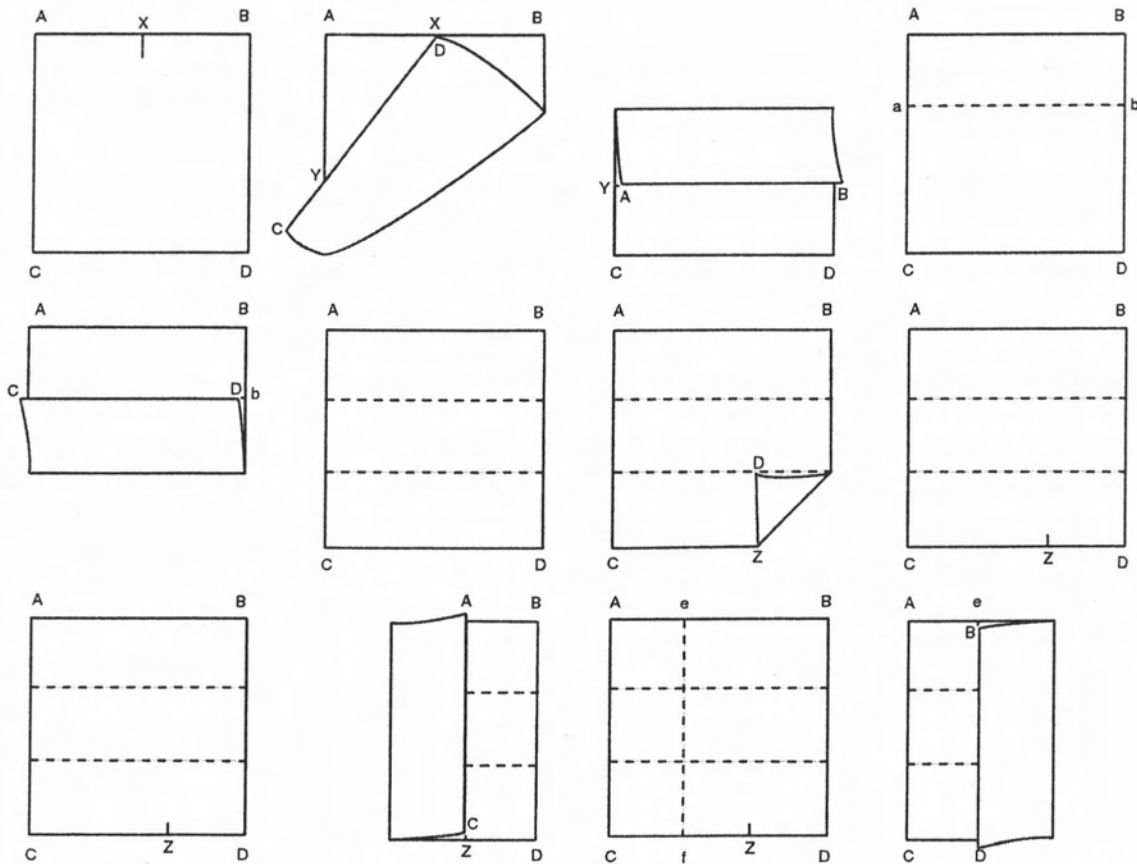


Note 5: It is best to cut Thumb notches with a gouge and a mallet, using the wrapped package as a cutting board. If you do not have these tools, trace the shape with a quarter and cut it out with a knife or scissors. A triangular shape, less troublesome to cut, will also work.

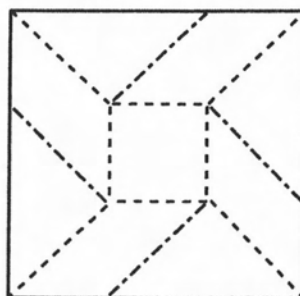


Note 5: The covers for this multi-section slip case are fitted, folded, and cut into shape by using the extending wall units. There are other options to finish off this project. Boards glued to the wall extensions provide sturdier and slightly larger covers. Using the same book cloth as on head, tail and spine, the boards will look attractive. The outside wall units can also be shortened and serve as hinges for heavier covers.

divide square into thirds  
proceed to fold lid

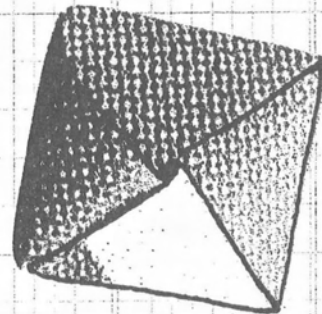
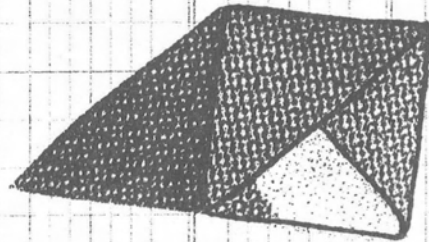
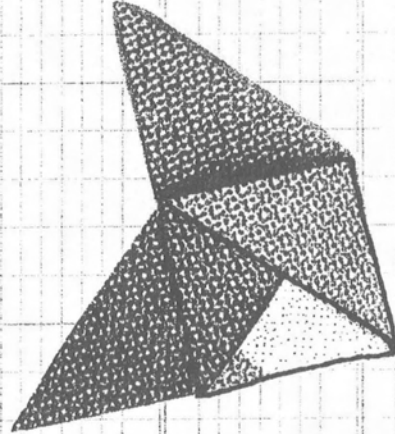
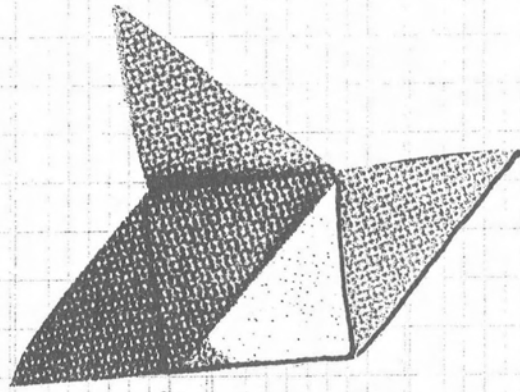
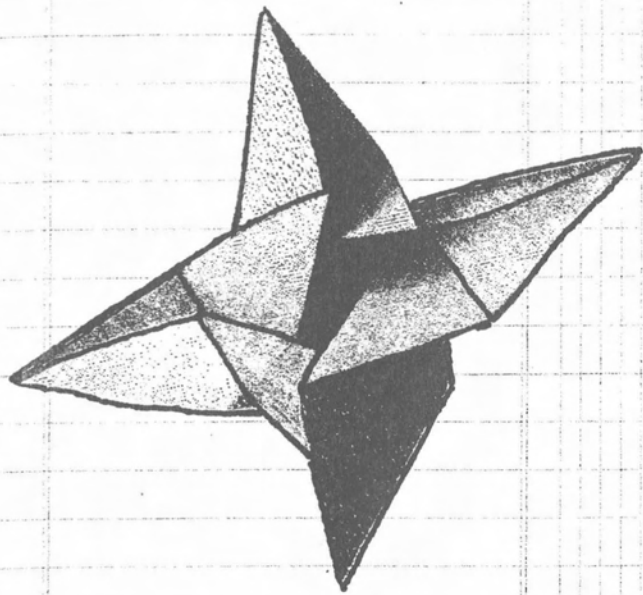


turn the square over and make valley folds



----- valley fold  
----- mountain fold

turn square over again so that valley folds become mountains  
crease sharply and overlap towards center



# Portland Envelope

Described by Hedi Kyle

Use a letter size ( 8 1/2" x 11") piece of paper.

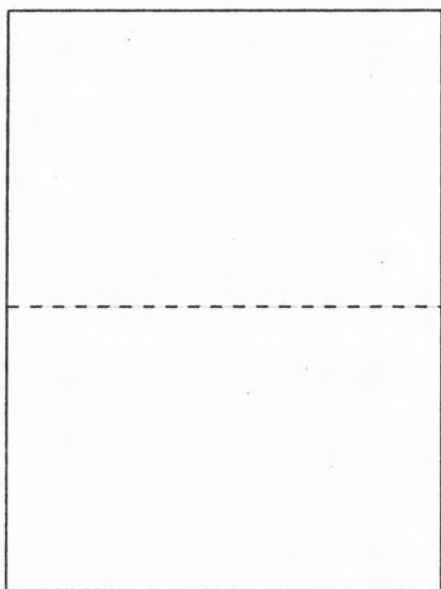
Other rectangles and squares of paper will work as well, resulting in envelopes of different proportions.

It is fascinating to observe the relationship between paper and envelope proportions.

Some are of extremely exaggerated shapes. Others approach the golden rectangle.

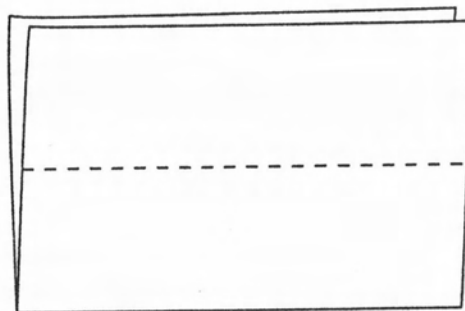
A sheet of paper with the ratio 4:3 will fold into an envelope with the proportion of 5:8.

As a general rule, the first crease always divides the longer sides in half, unless you start with a square piece of paper.



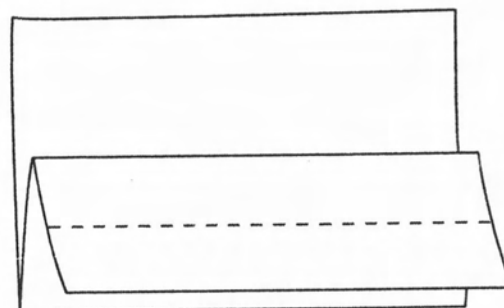
1

Fold the sheet in half upwards.



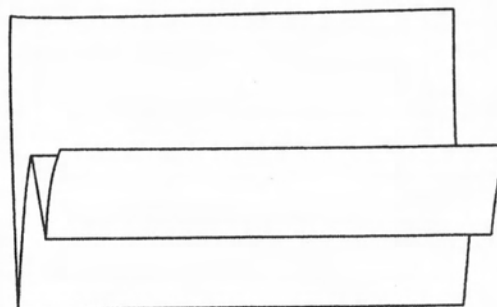
2

Fold only the top layer down, dividing it in half.



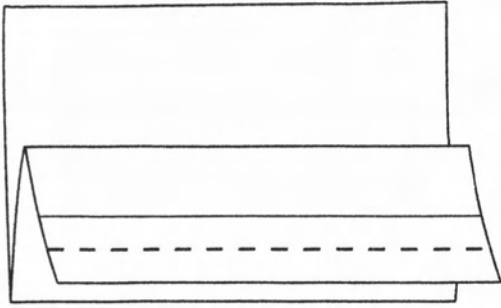
3

Fold the top layer up, dividing it in half.

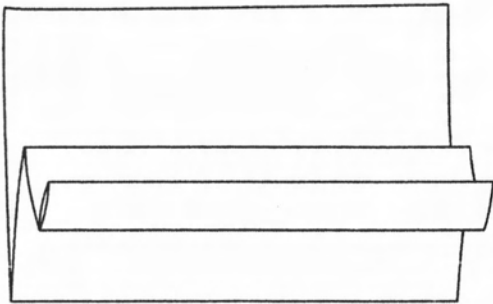


*It will look like this.*

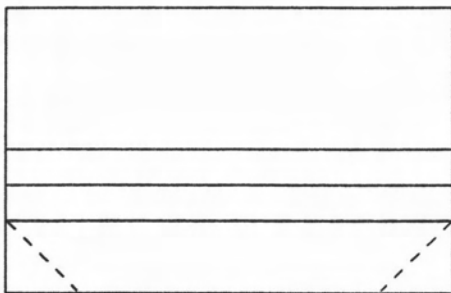




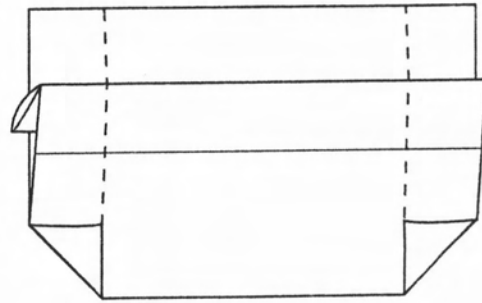
- 4  
Open the top layer and fold the raw edge up to the creased line.



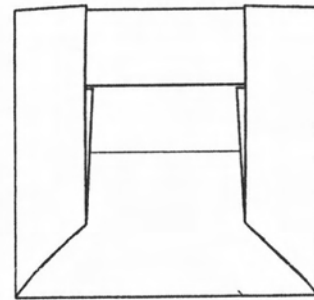
- 5  
Fold the double portion upwards, completing this part called the cross bar.



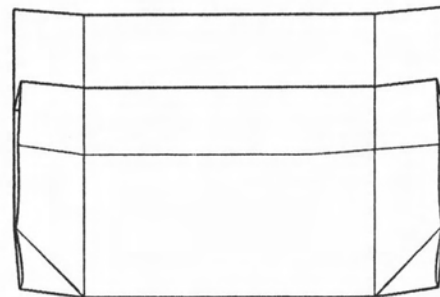
- 6  
Fold the bottom corners diagonally up to meet the lower crease of the cross bar.



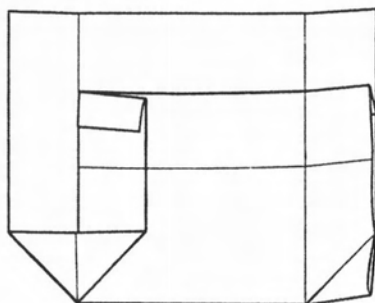
- 7  
Fold the cross bar up and the side portions inwards.



*It will now look like this.*

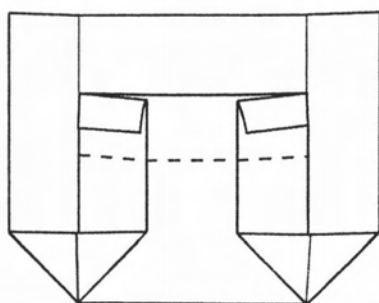


- 8  
Open the side portions and unfold the triangles.



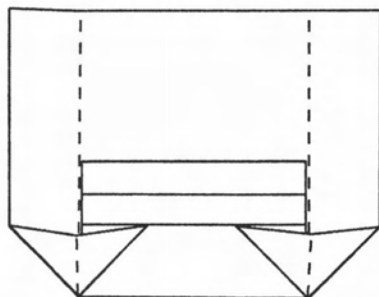
9

Separate the top layer of the left side portion. Fold it inwards squashing the triangle flat at the same time. Repeat procedure with the right side portion.



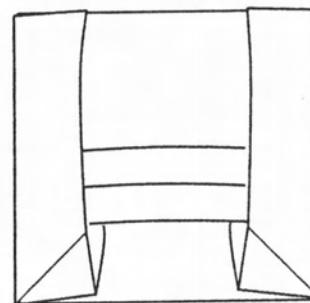
10

Fold the cross bar section down to the edges of the triangles.

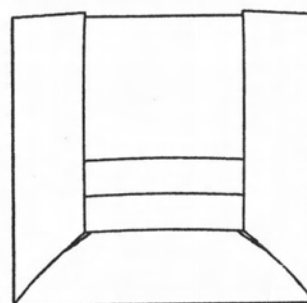


11

Pull the triangles out while folding the side portions inwards.

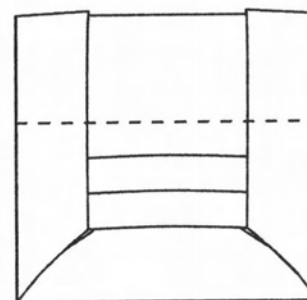


*It will now look like this.*



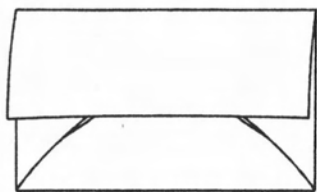
12

Fold the triangles back tucking them underneath the side portions.

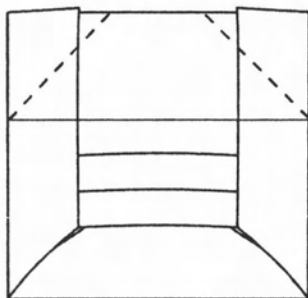


13

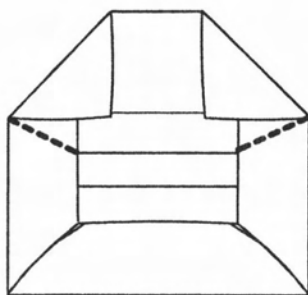
Fold the top portion down to meet the lower crease of the cross bar.



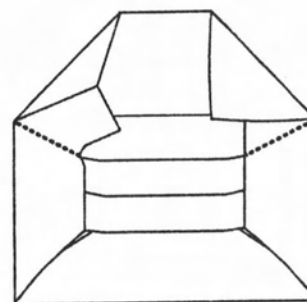
*It now looks like this.*



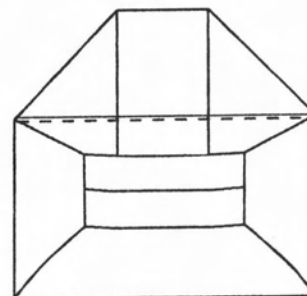
- 14  
Open the top portion upwards and fold the two corners to the creased line.



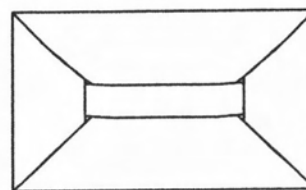
- 15  
Score with a bone folder along the dotted lines,



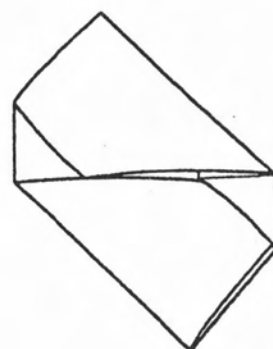
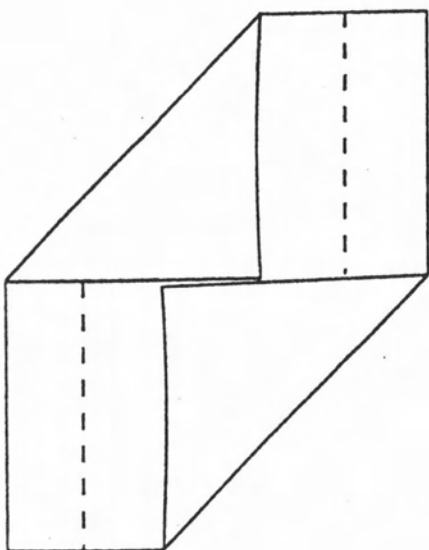
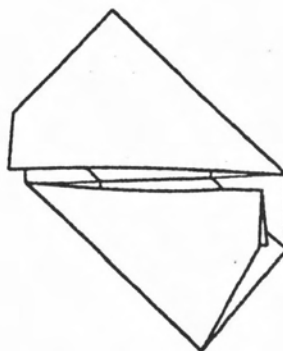
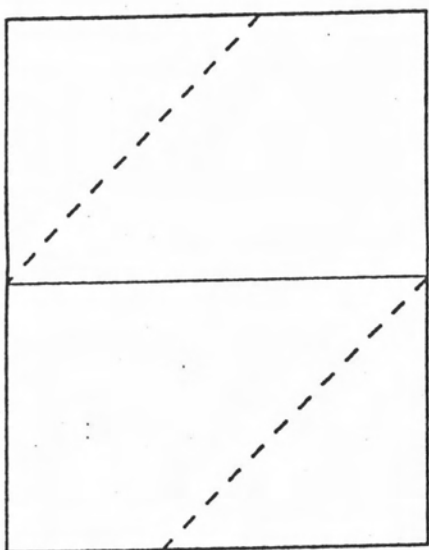
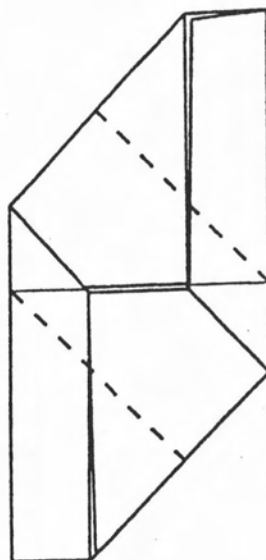
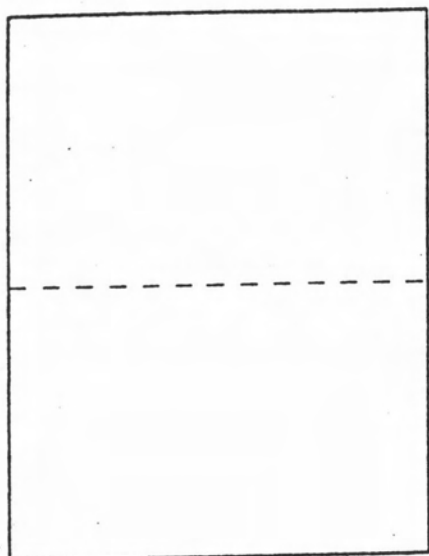
- 16  
Unfold the left triangle. Spread the envelope apart with your fingers behind the cross bar. Push the side portion downwards into the open space until the crease of the new triangle matches the crease of the top portion. Repeat procedure on right side.

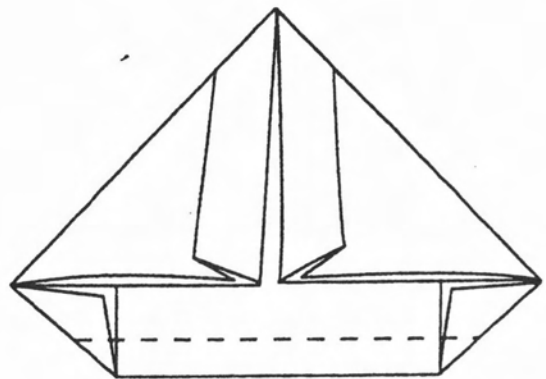
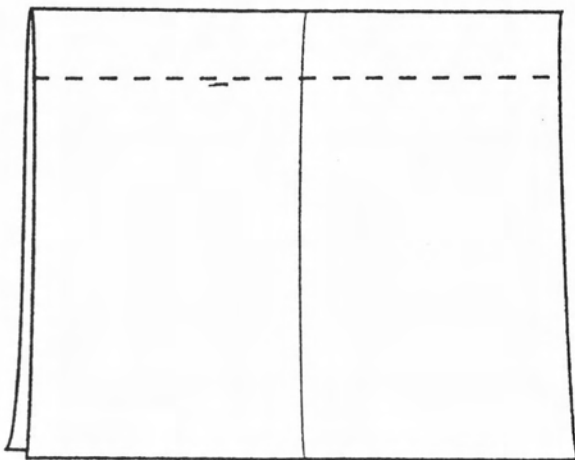
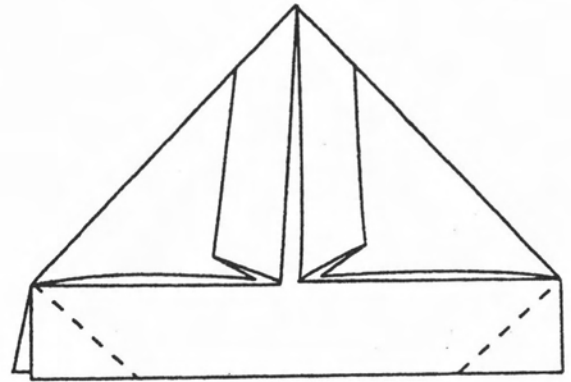
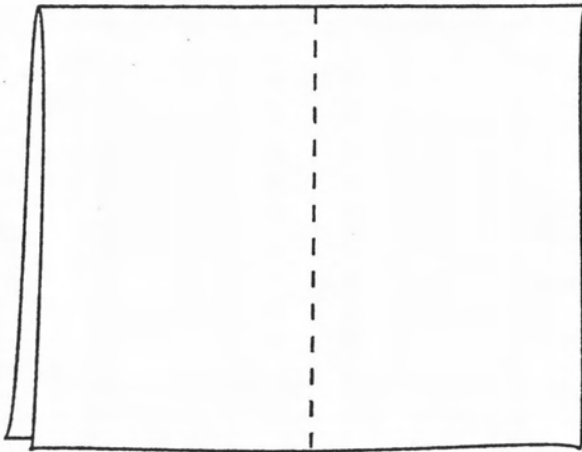
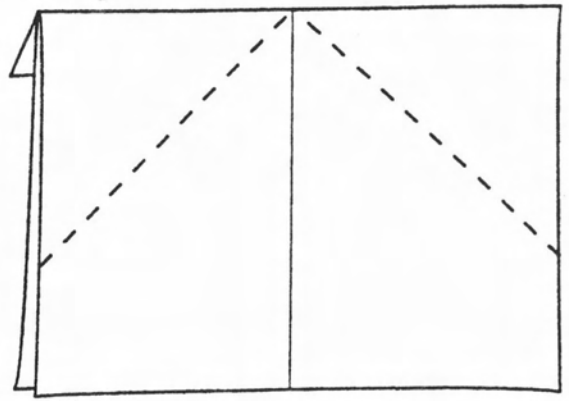
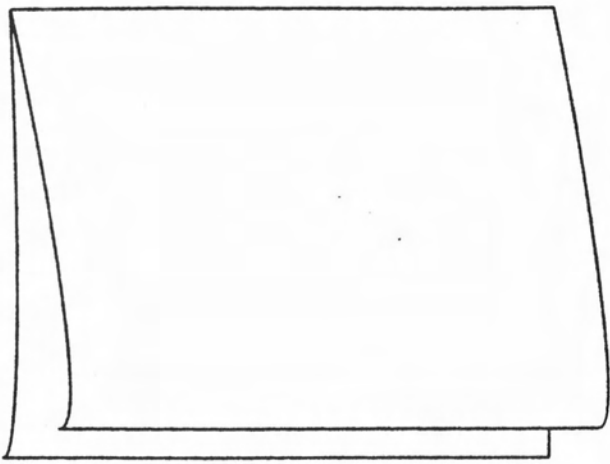


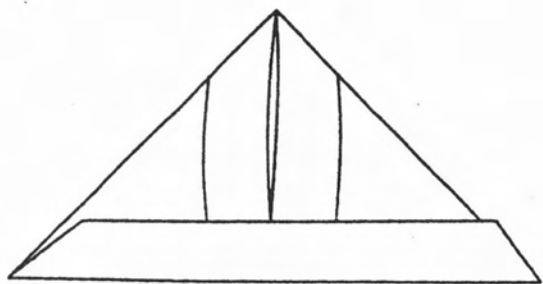
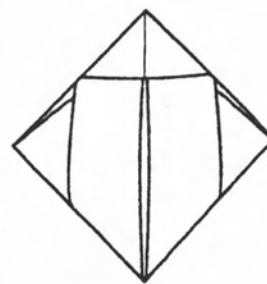
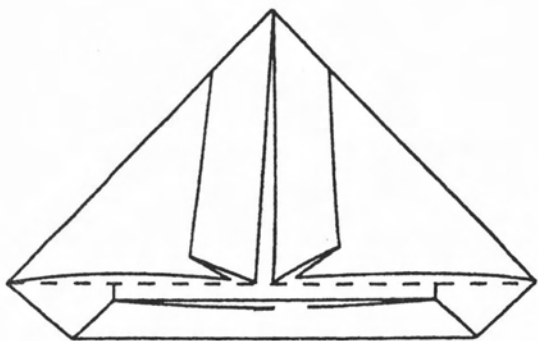
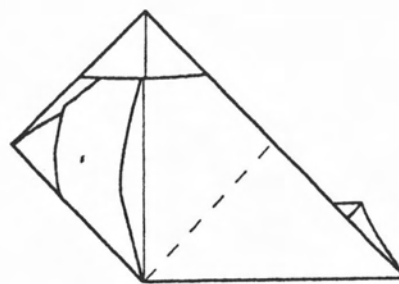
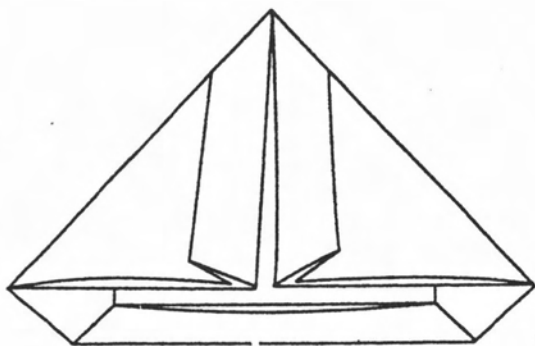
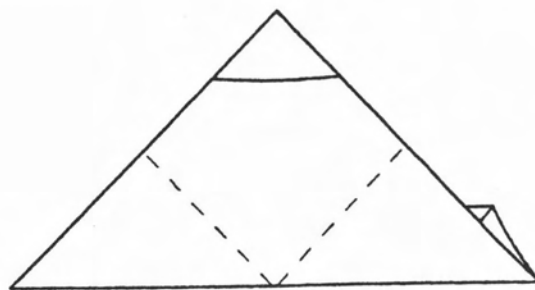
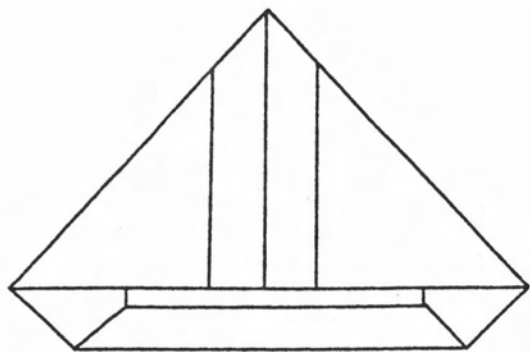
- 17  
Fold the top portion down. Insert it in the lower open part of the cross bar.



*This is the completed envelope.*







# Clam Shell Box INSTRUCTIONS BY HEDI KYLE

This sturdy, handsome looking container allows for easy access and is the best choice to protect books and other materials in the library and archives. There is only one drawback, it takes considerable time and skill to construct a clam shell box. Practice and production set ups however facilitate the work and can result in cost-effective output.

The clam shell box consist of a small tray, a large tray, and a case. The small tray holds the book, the large tray serves as a lid, and the case connects the two trays. The three components are constructed separately and assembled in the final stage.

## MATERIALS:

1. PVA
2. Mixture, PVA mixed with Methyl Cellulose (1:1) to the consistency of heavy cream.
3. Red Label Davey Board
4. Book cloth or buckram
5. Acid-free lining paper
6. Waxed paper or freezer wrap
7. Sand paper sticks
8. 4 ply mat board
9. 20 pt. Library Board
10. Newsprint

## TOOLS:

1. Board shear
2. Mat or utility knife
3. Ruler or straight edge
4. Small triangle
5. Bone folder
6. Pencil
7. Large brush 1" diameter
8. Small brush 1/4" diameter
9. Scissors

## SPECIAL DEVICES:

1. Wrapped bricks used as weights and supports
2. Small weights
3. Filler boards or wooden blocks to fill trays while box is being pressed
4. Jigs used to facilitate measuring

## LEGEND:

Height - H  
Width - W  
Thickness - TH  
Board thickness - BT

Cut   
Crease   
Adhesive   
Discard 

## WORKING SEQUENCES:

- I. Preparing Jigs
- II. Measuring and cutting pieces for small tray
- III. Assembling and gluing small tray
- IV. Measuring and cutting cloth to cover small tray
- V. Covering small tray
- VI. Lining bottom of small tray



- VII. Repeating steps II - VI to construct large tray
- VIII. Measuring and cutting boards for case
- IX. Preparing spine for label
- X. Measuring and cutting cloth to cover case
- XI. Covering case
- XII. Lining exposed surface of case
- XIII. Attaching trays to case
- XIV. Lining spine of case
- XV. Lining tray
- XVI. Affixing label

## I. PREPARING JIGS:

**Jig A:** Cut a piece of 4 ply mat board approximately to size of book. Label and use to add a little extra space for clearance when measuring.

**Jig B:** Cut a strip of Davey Board (same thickness as used for box). Label and use to add one board thickness whenever needed.

**Jig C:** Cut and glue two strips of Davey Board (same thickness as used for box) together. Label and use as joint spacer.

**Jig D:** Cut a 3/4" wide and approximately 20 " long strip of Davey Board. Label and use to establish and trim cloth turn-ins.

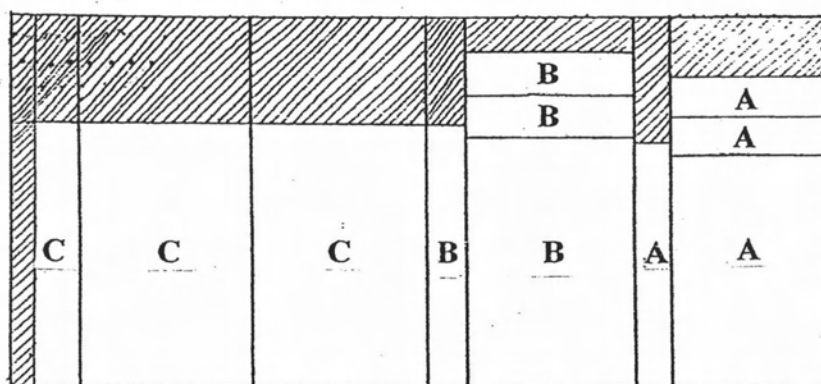
## II. MEASURING AND CUTTING PIECES FOR SMALL TRAY

*Note:*

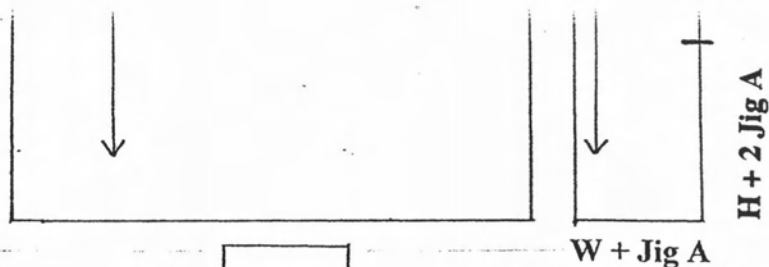
*Working with full sheets of Davey Board is awkward. Cut off a large enough portion to accommodate all the pieces. If the book is very large, the case components may require another portion of Davey Board. Always make sure that the grain direction runs parallel to the spine of the box. To reduce inaccuracy resulting from pencil marks, multiple cuts are made by using the gauge or the guide on the board shear. The illustrated layout is one of many suggestions. Individuals may come up with their own solutions.*

*Not all books are square. Always measure from the extreme height, width and thickness of the book .*

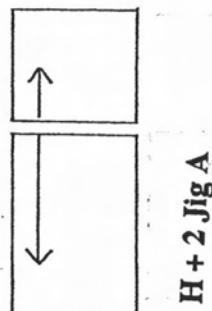
A - Small tray  
B - Large tray  
C - Case



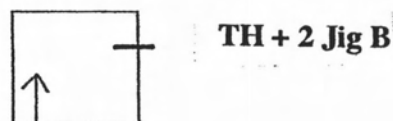
1. Measure the book's height plus 2 times the thickness of Jig A and the book's width plus 1 thickness of Jig A.



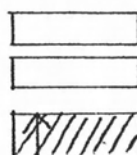
2. Set board shear guide to fix measurement and cut at height mark.



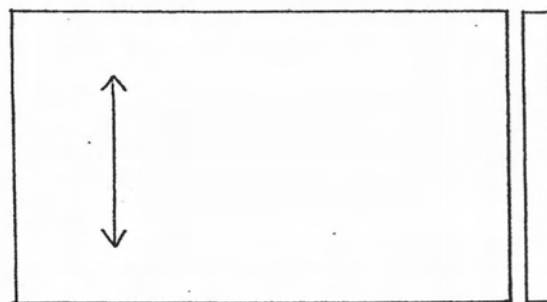
3. Measure and mark thickness of book plus 2 times thickness of Jig B.



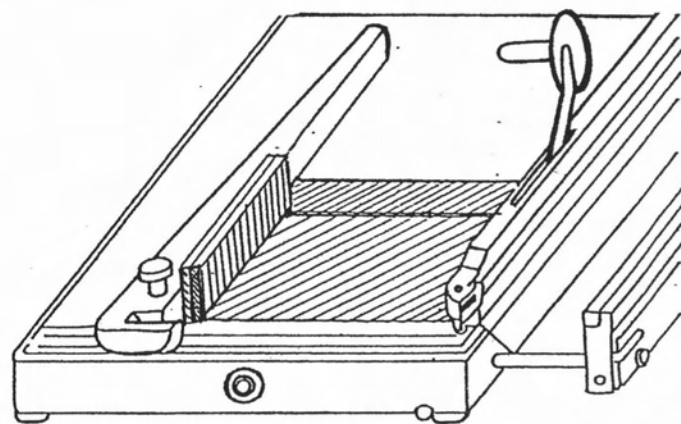
4. Set board shear guide to fix this measurement. Cut two identical pieces. These are your short walls for the small tray.



5. Without moving the guide, cut a strip from the set-aside portion of Davey Board which will become the long wall of the tray.

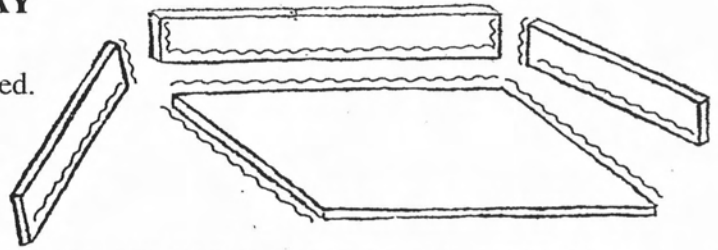


6. Align small tray base with cutting edge of board shear. Stand the two short wall pieces straight up against the base. Fasten gauge. Use this fixed measurement to shorten the long wall strip. It should be the height of the base board plus two board thicknesses. Check all pieces for accuracy.

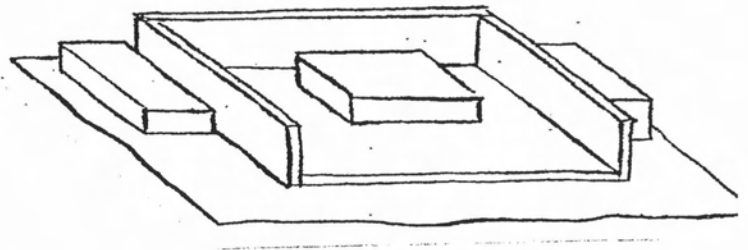


### III. ASSEMBLING AND GLUING SMALL TRAY

7. Apply straight PVA to base and walls as illustrated.



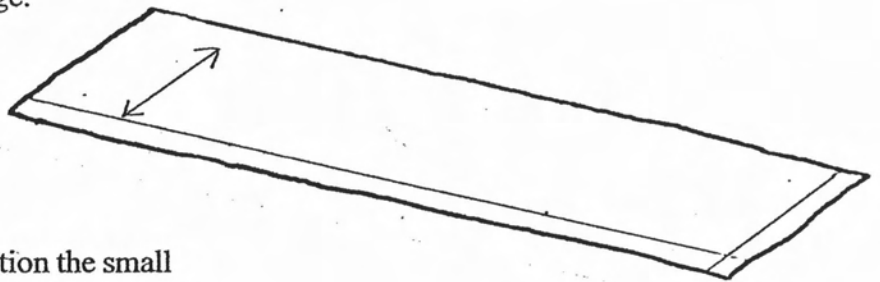
8. Place baseboard on piece of waxed paper. Weigh down. Glue both short walls to the base first and then the long wall. Keep all walls straight and all corners flush. Use weights to support the walls until adhesive is completely set and dry.



9. Sand edges and corners lightly.

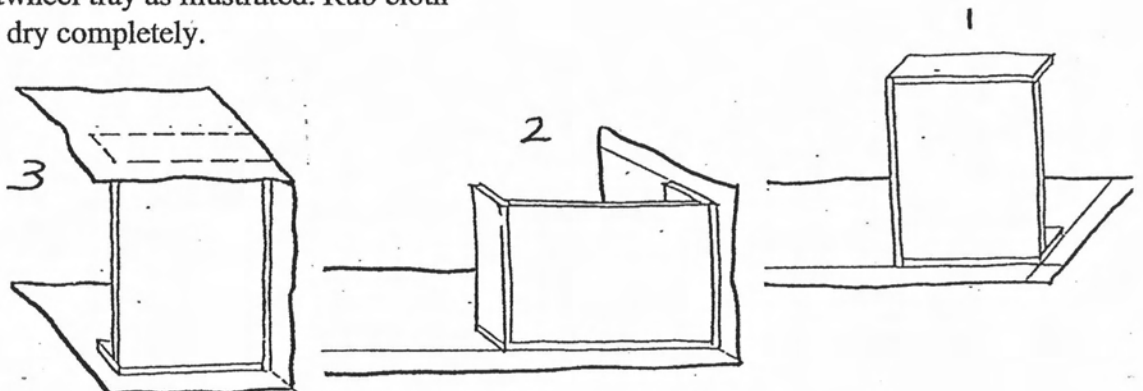
### IV. MEASURING AND CUTTING CLOTH TO COVER SMALL TRAY

10. Cut and square a piece of book cloth to the combined length of the three wall strips plus 1 1/2" by twice their height plus 1 1/2". The grain direction should run the short way. Draw pencil lines 3/4" away from one short and one long edge.

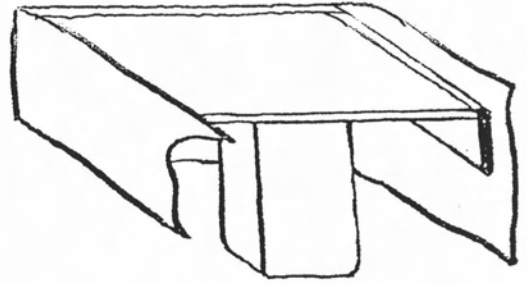


### V. COVERING SMALL TRAY

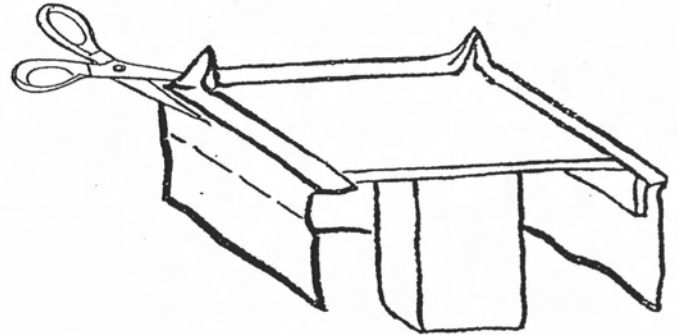
11. Apply mixture to the cloth strip. Position the small tray with the open side lined up with the pencil line at the short edge. Make sure the bottom of the tray lines up with the pencil line at the long edge. Hold cloth taut and cartwheel tray as illustrated. Rub cloth down well and let dry completely.



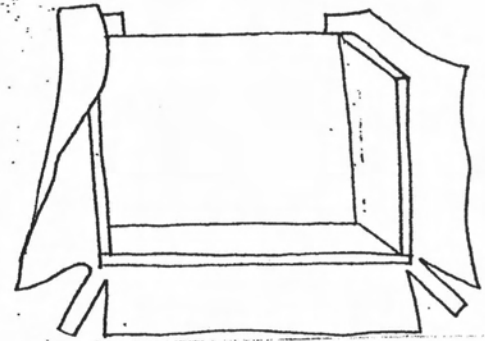
12. Turn the tray upside down and support it with a wrapped brick.



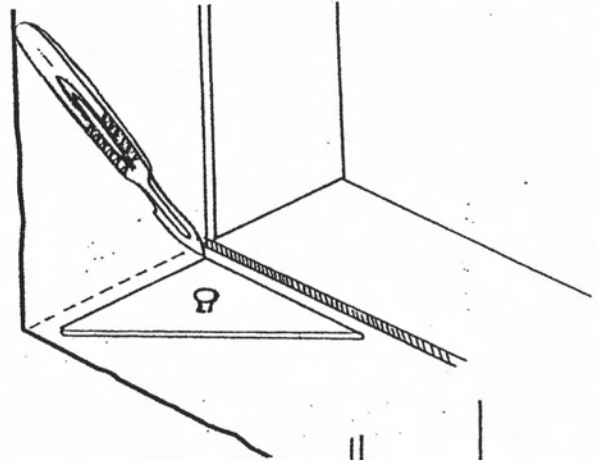
13. Miter and trim corners. Apply mixture to extending cloth and glue down. Rub well and let dry.



14. Prepare cloth to be turned in by cutting tongues at the long wall corners. See instructions below.



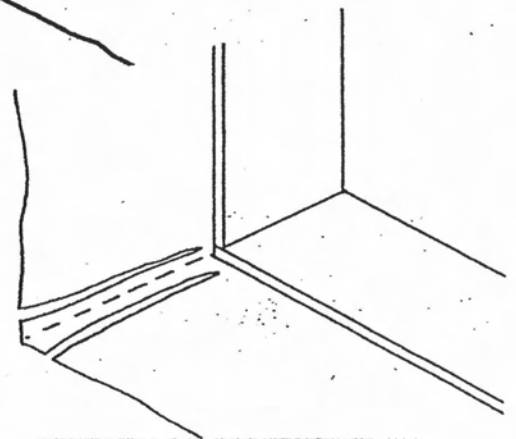
15. Place triangle a generous Jig B thickness away from the projected corner line. Start your cut a Jig B thickness away from the long wall. Tip tray over and repeat cut on other side of projected corner line.



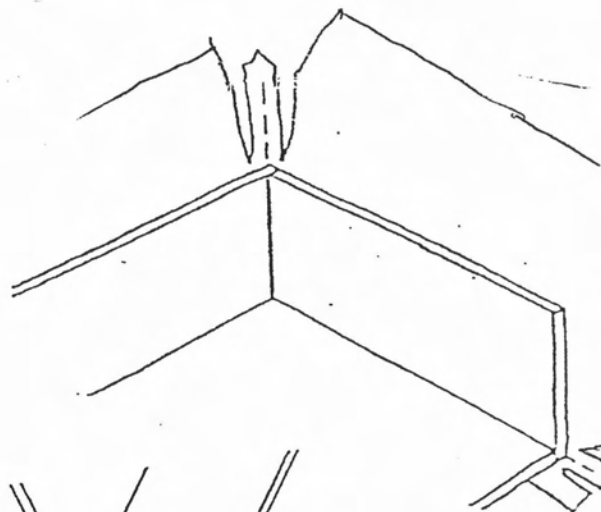
16. Cut an identical tongue on the opposite corner of the long wall.

*Note:*

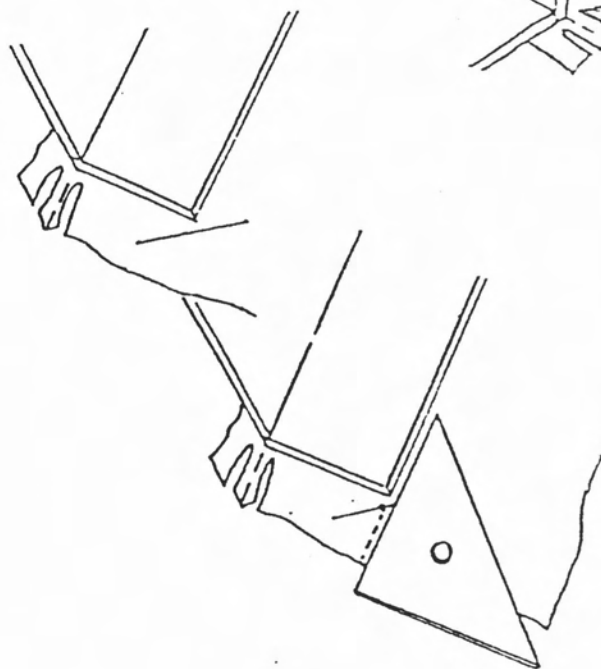
*A finished tongue should look as illustrated.*



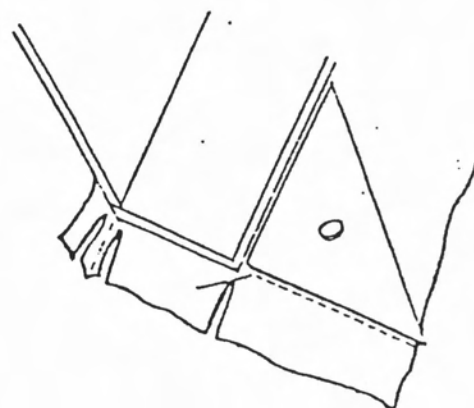
17. Cut a tongue at the lower open edge of the short wall following the same procedures. Remember to start the cut one Jig B thickness away from the edge.



18. For the tongue at the upper open edge make a diagonal pencil line one Jig B thickness away from the corner. Make the cut on the narrow cloth turn-in by lining your triangle up with the wall. Start the cut at the pencil line.



19. Make the cut on the wide cloth turn-in one Jig A thickness away from the projected wall line.

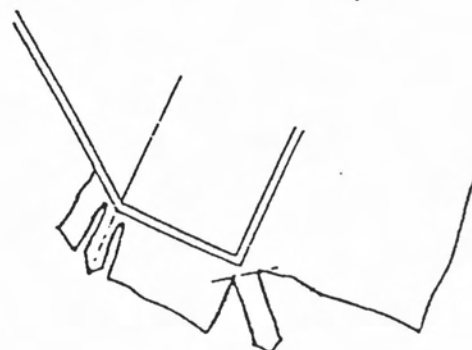


20. Trim the tongue as illustrated.

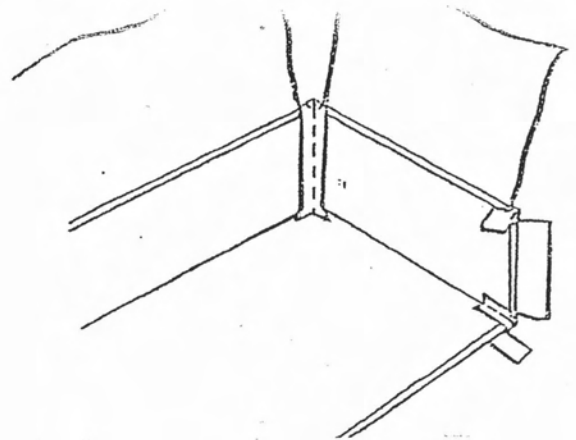
*Note:*

*When glued down, the tongue should not overlap the board edges at the corner.*

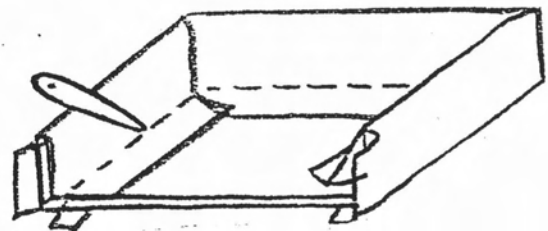
21. Proceed to cut the tongues on the opposite corners of the other short wall.



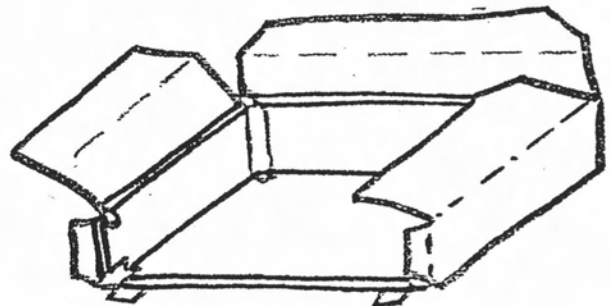
22. Apply mixture to all six tongues. Pull them over walls and edges of tray and firmly press them into corner joints with bone folder.



23. Pull flaps over walls and score with bone folder against joints to establish creases.



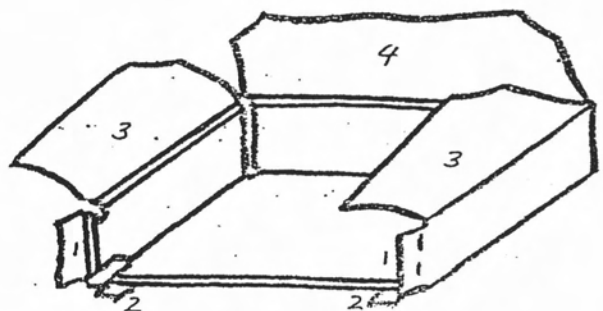
24. Bring flaps upwards again and starting at the creases, cut the corners at 45° angles. Do not angle flaps at open side of tray.



*Note:*

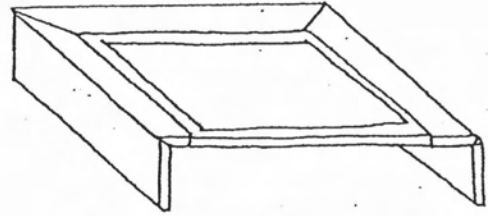
*To establish a 45° angle, fold corner over to meet crease line.*

25. Apply mixture to flaps and glue flaps down in numbered sequence.



## VI. LINING BOTTOM OF SMALL TRAY

26. Turn tray over and fill in exposed areas with scraps of book cloth. Let tray dry completely.



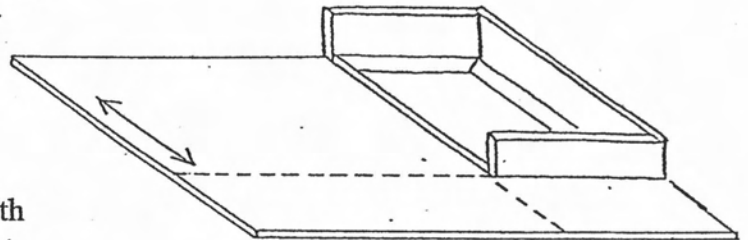
27. Place the book inside the tray to test the perfect fit.

## VII. REPEATING OPERATIONS II - VI TO CONSTRUCT LARGE TRAY

28 Construct the large tray following directions for the small tray. Procedures are exactly the same with one exception. All measurements are now taken from the small tray rather than the book.

## VIII. MEASURING AND CUTTING BOARDS FOR THE CASE

29. Use large tray to establish size of case boards and spine. Place large tray directly on top of Davey Board. Mark height and width.



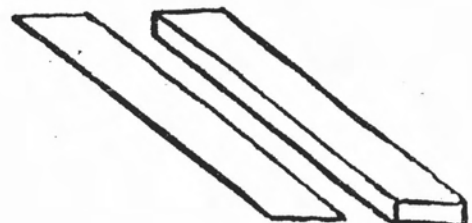
30. Cut height measurement first to ensure that both case boards and spine are the exact same height.

31. Set gauge to cut width measurement. That way the second board can be cut to the exact same width.

*Note:*

*If you are not planning to have a spine label inset  
Skip the next steps and go to step 35.*

32. Mark and cut spine strip to thickness of large tray. Set guide and cut another strip of 20 pt. Library Board to same thickness and height.



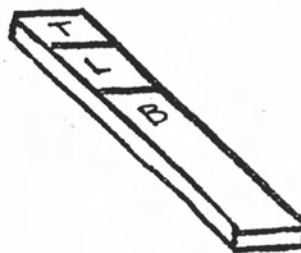
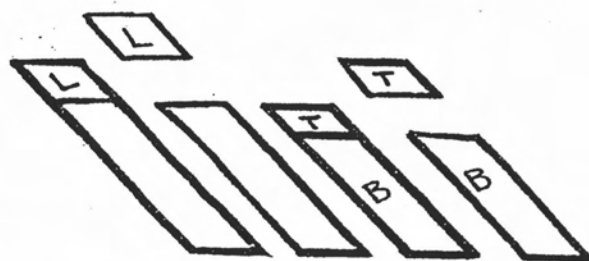


*Note:*

*The 20 pt. Library Board strip is used to provide a label inset. Not only will this indentation on the spine give a better appearance, it will also prevent the label corner tips from being lifted up when handling the box.*

## IX. PREPARING SPINE FOR LABEL

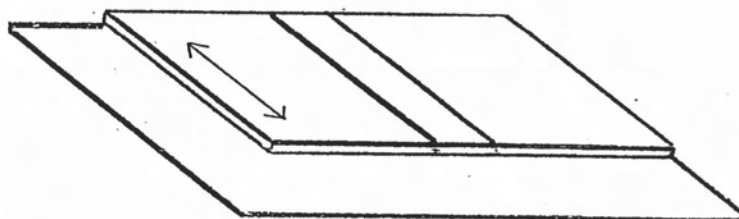
33. Decide on size of label and cut a piece that size from the 20 pt. strip. Mark the piece Label (L) and put it aside. Cut a 1" piece off as well. Mark this piece Top (T) and the remaining piece Bottom (B).



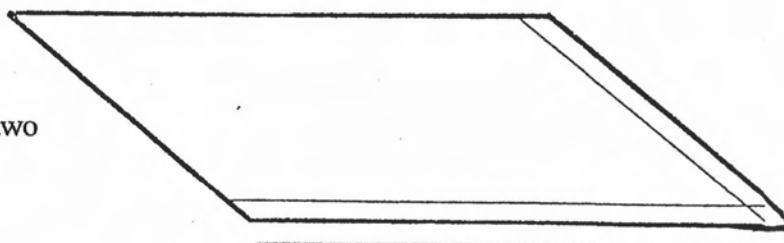
34. Apply mixture to pieces T and B and glue them to spine. Align piece T flush with the top and piece B flush with the bottom.

## X. MEASURING AND CUTTING CLOTH TO COVER CASE

35. Cut a piece of book cloth to the height by the combined width of the three case pieces (1 spine and 2 boards) plus 3" in both directions. Make sure grain direction runs parallel to spine.



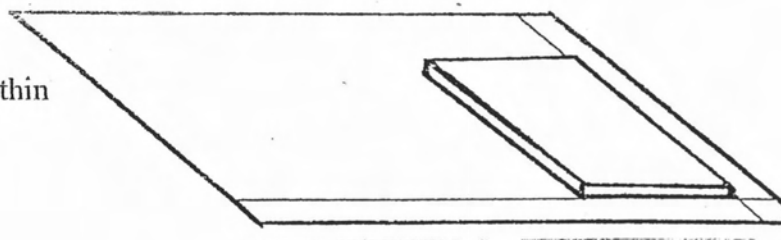
36. Square and draw pencil lines  $\frac{3}{4}$ " away from two opposed edges.





## XI. COVER CASE

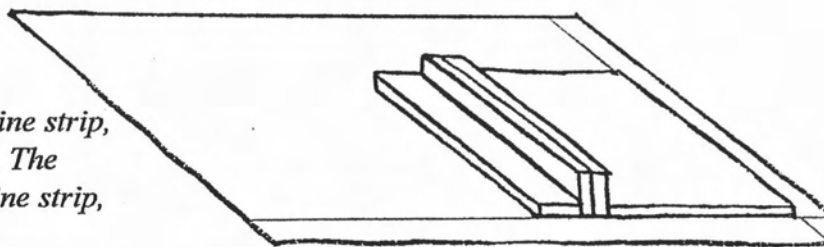
37. Apply mixture to one case board. Place it within the corner flush with the pencil lines.



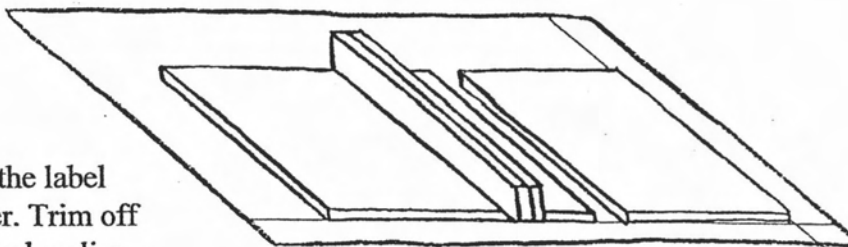
38. Use Jig C as a joint spacer. Apply mixture to the spine piece. Butt it against Jig C and make sure it is flush with the pencil line as well.

*Note:*

*If you have an inset for a label on the spine strip, pay attention to the position of the label. The label inset should be at the top of the spine strip, facing the cloth.*

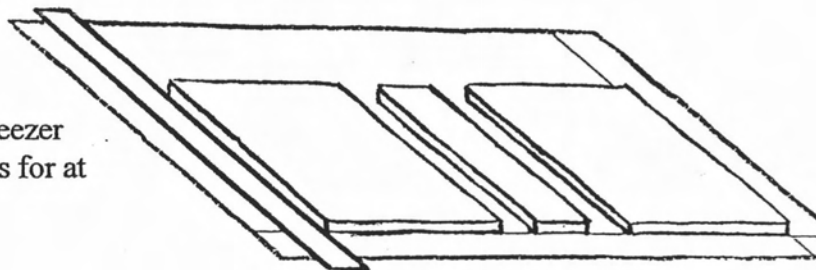


39. Remove Jig C and place it on the other side of the spine strip. Apply mixture to second case board. Position and rub all pieces down well.

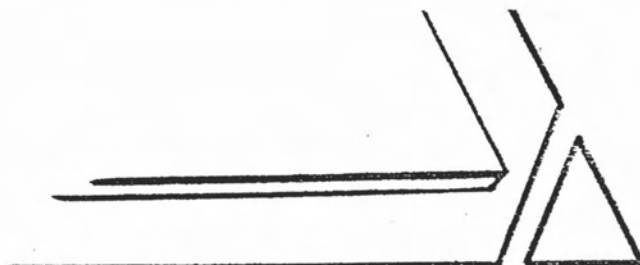


40. Turn case over. Bone cloth down over the label inset through a protective sheet of paper. Trim off a 1/16" from the 20 pt. label cut-off saved earlier and affix it temporarily with a dab of PVA to its old position.

41. Place the case between waxed paper or freezer wrap and pressing boards. Nip in the press for at least 30 minutes.

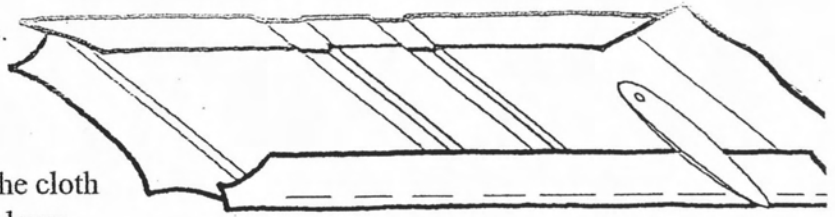


42. Use Jig D as a guide to trim off excess cloth around the case boards.



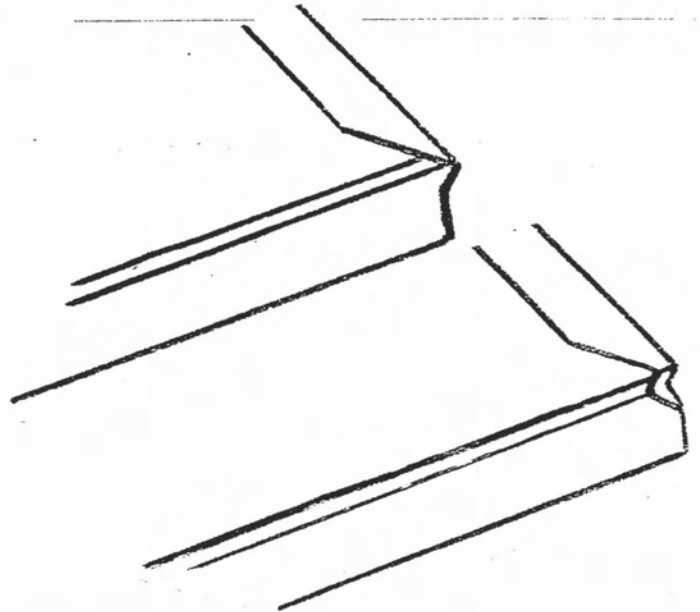
43. Cut cloth two boards thicknesses (Jig C) away from the board corners.

44. Apply mixture to top and bottom turn-ins.



45. Running a bone folder on the outside of the cloth and pushing it up against the board, glue down top and bottom turn-ins. Work the cloth well into the joints.

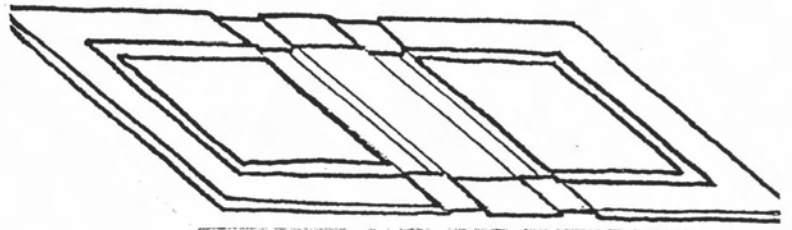
46. Tuck the surplus cloth at the corners neatly against the edges of the boards.



47. Apply mixture to side turn-ins and glue them down.

## XII. LINING EXPOSED SURFACES OF CASE

48. Line the exposed surfaces of the case boards with cloth. An exact fit is not necessary.

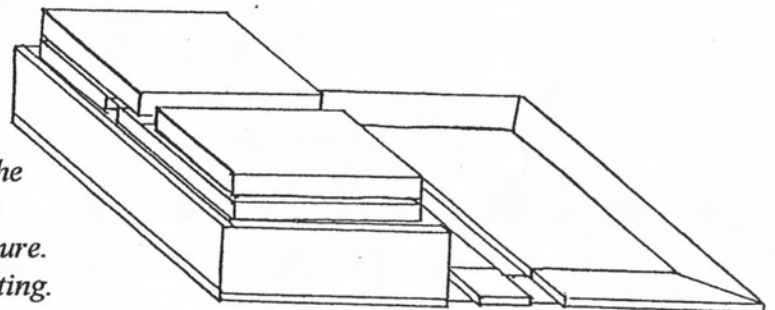


## XIII. ATTACHING TRAYS TO CASE

49. Select filler boards or blocks for each tray. Make sure the filler is higher than the walls of each tray. Set aside.

*Note:*

*This preparation will come in handy. When the trays have been glued to the base, there is no time to waste before they are put under pressure. Trying to fit filler boards then can be frustrating.*

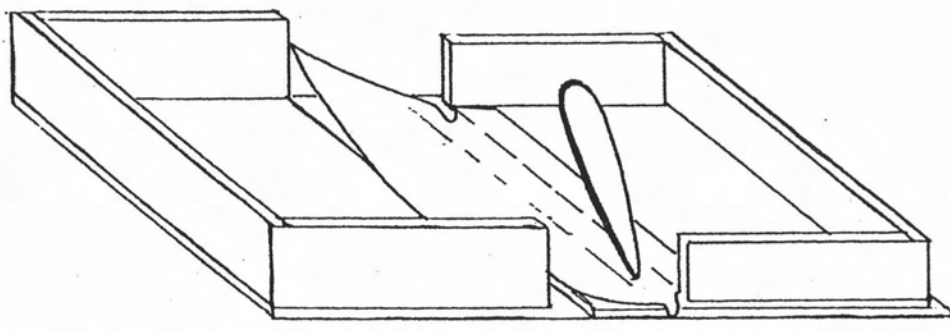


50. Apply straight PVA to the bottom of large tray. Position on left case board, flush with all edges. Fill with boards and place in press for at least 30 minutes.

51. Apply straight PVA to bottom of small tray. Position on right case board, centered head to tail and flush with spine edge of case board. Place weight on base. Carefully close large tray over small tray to check the fit.
52. Place filler boards in small tray and press at least 30 minutes.

#### XIV. LINING SPINE OF CASE

53. Cut strip of cloth for spine lining to inside height of small tray by spine thickness plus 2" to overlap onto the case boards.
54. Apply mixture to cloth strip, center and glue to spine working cloth well into the joints.



#### XV. LINING TRAYS

55. Measure and cut two sheets of lining paper. The grain must run parallel to the spine. The dimensions are height by width of each tray base minus 1/4" in either direction.

##### *Note:*

*Most papers stretch when coated with adhesive, particularly across the grain. It is easier to deal with a slightly smaller lining sheet which is centered on the base board of each tray and glued down with mixture.*

56. Rub the lining paper down through a protective sheet of paper. Allow the lining paper to dry completely before placing the book in the box.

#### XVI. AFFIXING LABEL

57. Measure and cut label to fit the inset on the spine. Glue the label down with straight PVA.

## SELF-CLOSING WRAPPER

This economical enclosure is designed as a temporary holding device for hard cover books in need of repair. It is also useful to protect heads and tails from wear and tear and keep the damaging effects of dust and light under control, especially in the case of rare materials.

Like with all preservation enclosures, it is important to provide easy access. As a rule of thumb, books should be at least 3/4 of an inch thick, or it will be difficult to tuck in the flap, which closes the wrapper.

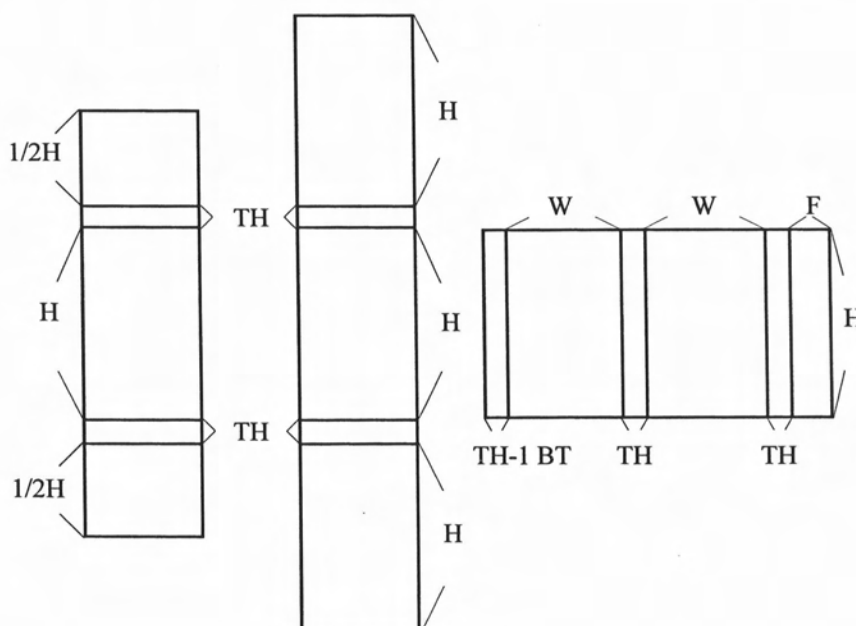
The major drawback with enclosures is that they reveal very little about their contents and deprive us of viewing original backs. Over the years we have found that in addition to call numbers, photo copied spines and conservation codes help to identify not only the books themselves, but also their physical condition.

Self-closing wrappers are constructed from two strips. One strip wraps around the book horizontally, the other one vertically. When using the suggested Library Board, both strips are cut along the shorter side of the sheet. Therefore the grain direction on both strips runs parallel with the creases. Most of the time scoring is not necessary. Wrapping and creasing the strips directly around the book saves time and produces a good fit.

When dealing with large books, the vertical strip will often not be long enough to provide full height flaps. There is no need for concern. The flaps can be modified as shown in the diagrams below.

To organize the work, books should be grouped into batches of five or six, depending on size and number of volumes. Five to six batches or 20-25 books can be processed in one day by one person.

The working sequence is numbered and described. It is best to take all books to be wrapped through each step before continuing with the next.



## **MATERIALS**

1. 20 pt. caliper library board or map folder stock
2. 1/4 inch double-sided tape

## **SPECIAL DEVICES**

1. Scoring board

## **TOOLS**

1. Board shear
2. Bone folder
3. Pencil
4. Mat or utility knife
5. Gouge
6. Mallet
7. Corne Rounder

## **LEGEND**

Width - W

Height - H

Thickness - TH

Board thickness - BT

Flap - F

## **WORKING SEQUENCES**

- I. Preparing labels with call numbers for spines
- II. Measuring, cutting, and partly creasing horizontal strip
- III. Measuring, cutting, and creasing vertical strip
- IV. Assembling both strips to complete creasing
- V. Adding finishing touches to both strips
- VI. Assembling wrapper

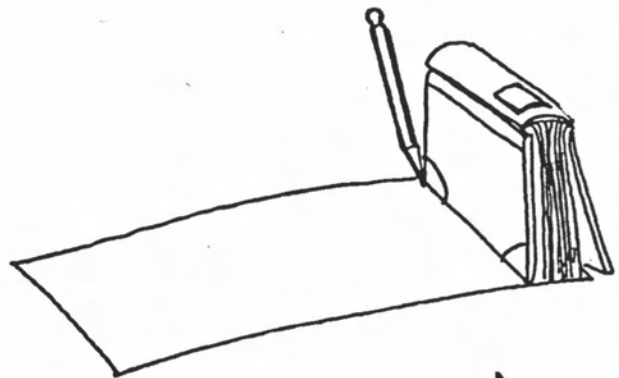
### **I. PREPARING LABELS WITH CALL NUMBERS FOR SPINES**

1. Write and print call numbers on computer
2. Affix to spine
3. Photocopy spines in batches of five or six books
4. Keep photocopy with each batch

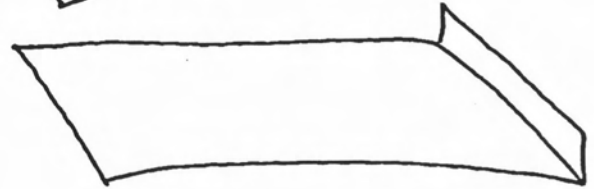
### **II. MEASURING, CUTTING, AND PARTLY CREASING HORIZONTAL STRIP**

5. Measure and cut a horizontal strip of 20 pt. Library Board to the height of the book by twice its width plus three thicknesses plus 2 1/2" ( $H \times 2 W + 3 TH + 2 \frac{1}{2}"$ ).  
The grain direction runs parallel to the height measurement.

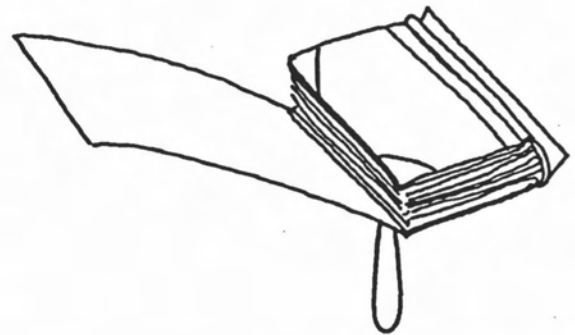
6. Mark thickness of book minus thickness of one cover board at one long edge of strip.



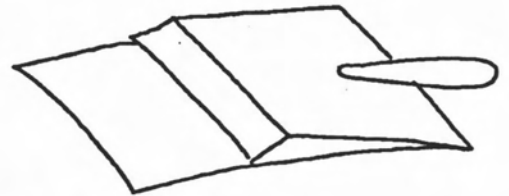
7. Score at mark on scoring board with bone folder and stand the small portion straight up.



8. Place book with spine against this small portion. Hold book down firmly and crease large portion of strip against lower book cover.



9. Remove book, line up edges of strip and bone down crease.

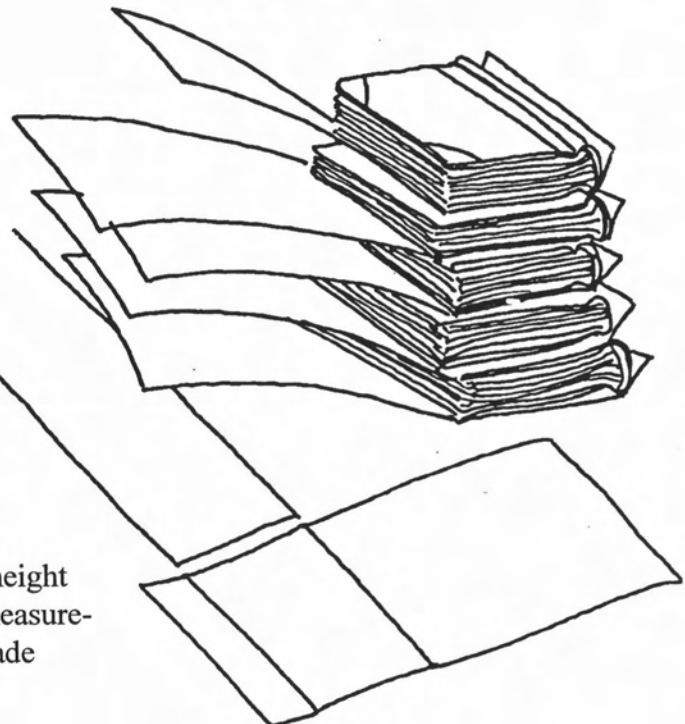


10. Replace book.

11. Repeat steps with all books.

*Note:*

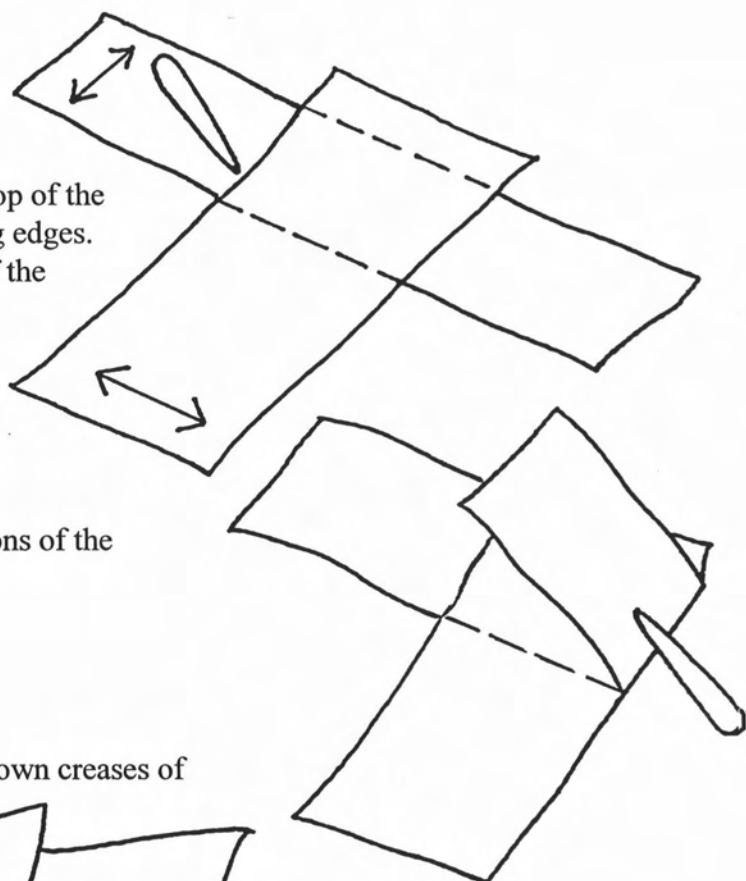
*Instead of creasing the wrapper strips against the book covers, you can also mark and score as described in step 7. This method will take longer. For the less experienced worker it may result in a neater end product.*



### III. MEASURING, CUTTING, AND CREASING VERTICAL STRIP

12. Cut vertical strip to width of book by three times the height plus two thicknesses ( $H \times 3H + 2TH$ ). The width measurement has already been established by the two folds made earlier on the horizontal strip.

13. At right angles center the horizontal strip on top of the vertical one and line up the folds with the long edges. Score on the vertical strip against the edges of the horizontal one with bone folder.



14. Hold down firmly and crease extending portions of the lower strip against the upper one.

15. Put upper strip aside. Align edges and bone down creases of lower strip.

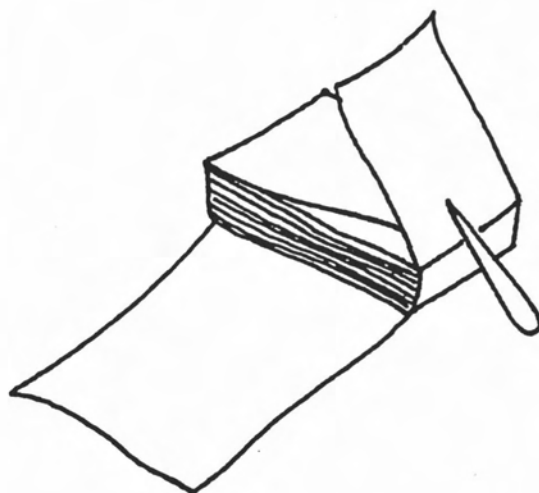


#### IV. COMPLETING CREASES ON BOTH STRIPS

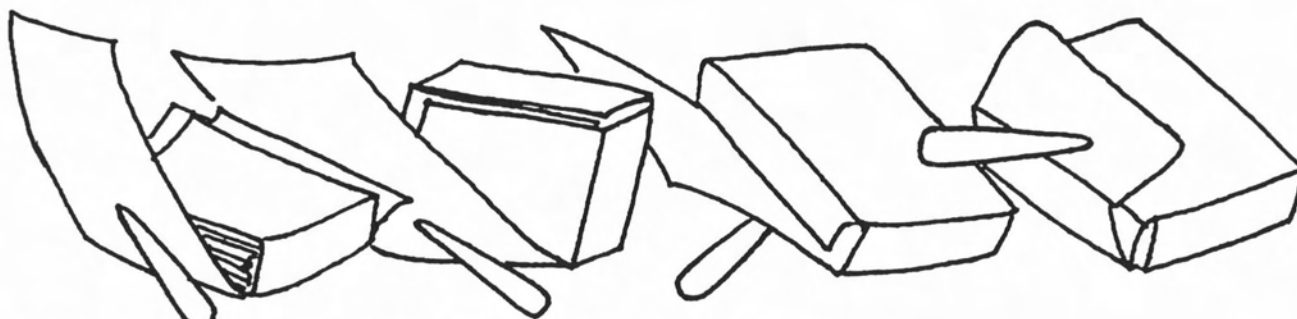
16. Assemble the two strips again. Position book, hold down firmly and crease flap extensions of vertical strip against upper book cover.

*Note:*

*Make sure the vertical strip is on the bottom of the assemblage.*



17. Wrap last extending flap of horizontal strip around, creasing it at all edges.

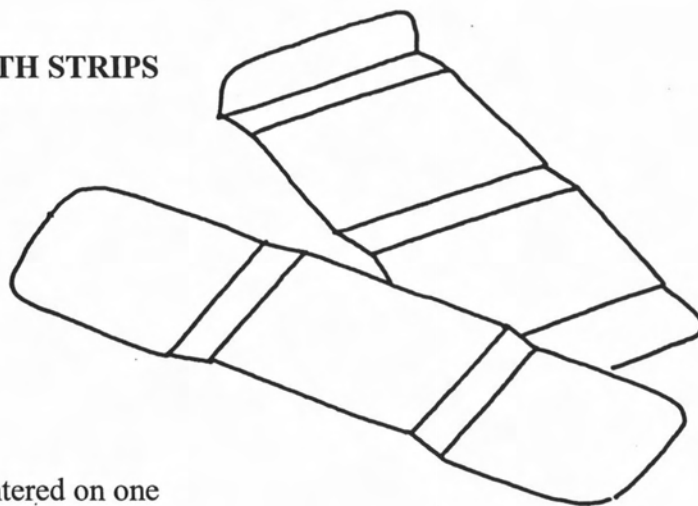


18. Remove book, line up edges and bone down all creases well.

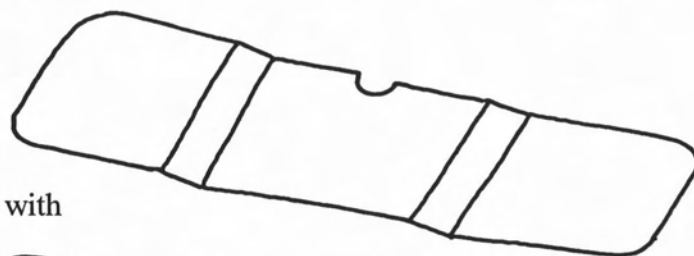


## V. ADDING FINNISHING TOUCHES TO BOTH STRIPS

19. Round all corners of both strips.



20. With gouge and mallet, punch thumb notch centered on one edge of the vertical strip.



21. Put line of double-sided tape opposite the edge with thumb notch.



## VI. ASSEMBLING WRAPPER

22. Bring both strips together, align horizontal strip on top of vertical one and hold in place. Remove paper coating from double-sided tape. Rub down well.



23. Place book in wrapper, this time with the fore-edge against the small portion.



24. Close vertical flaps. Bring horizontal flap over and tuck behind thumb notch.





## MULTI-USE BOX

This corrugated clam shell box was designed by Andrea Krupp at the Library Company in Philadelphia. It replaces a more traditional design effectively in regard to cost and construction time.

### MATERIALS

Archivart Multi-Use Board (single wall)  
PVA

### SPECIAL DEVICES

Jigs for measuring

### LEGEND

Width - W  
Height - H  
Thickness - TH  
Board Thickness - BT

### TOOLS

Board shear  
Mat or utility knife  
Ruler  
Large triangle or carpenters square  
Bone folder  
Pencil  
Gouge  
Mallet  
Glue brush  
Binders' clips

Crease — — — — —  
Discard 

#### *Note:*

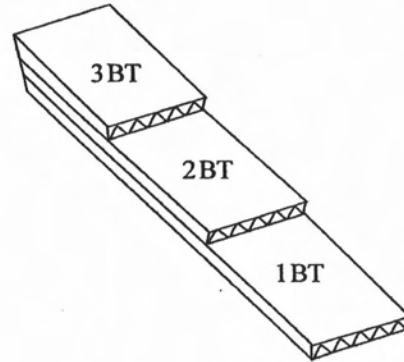
*Multi-use boxes are constructed from one piece of single wall corrugated cardboard. The grain and the corrugation lines should run parallel with the spine of the box. Creasing the vertical folds along the corrugation is easy. The cross-grain horizontal folds however need to be scored before creasing.*

### WORKING SEQUENCES

- I. Preparing jig
- II. Measuring the book
- III. Rough cutting board for box
- IV. Laying out cutting and folding lines
- V. Decreasing book tray base and cutting out shaded areas
- VI. Folding and creasing box lines
- VII. Completing triangular tabs
- VIII. Gluing corner tabs

## I. CONSTRUCTING JIG

1. **Jig A:** Cut 2 strips of corrugated board approximately 12" long.
2. Cut one third off of one strip.
3. Glue pieces together as illustrated.
4. Mark the smallest piece 3 BT, the middle piece 2 BT, and the large piece 1 BT.

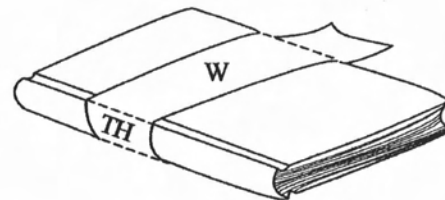
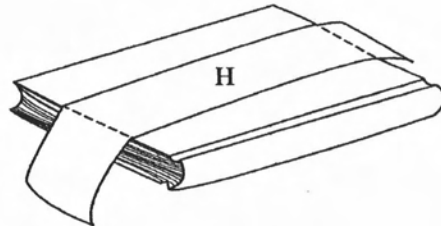


## II. MEASURING THE BOOK

*Note:*

*Not all books are square. Be sure to measure the tallest, widest, and thickest part of the book.*

5. Use a strip of paper to measure and mark the book's height (H), with (W), and thickness (TH).

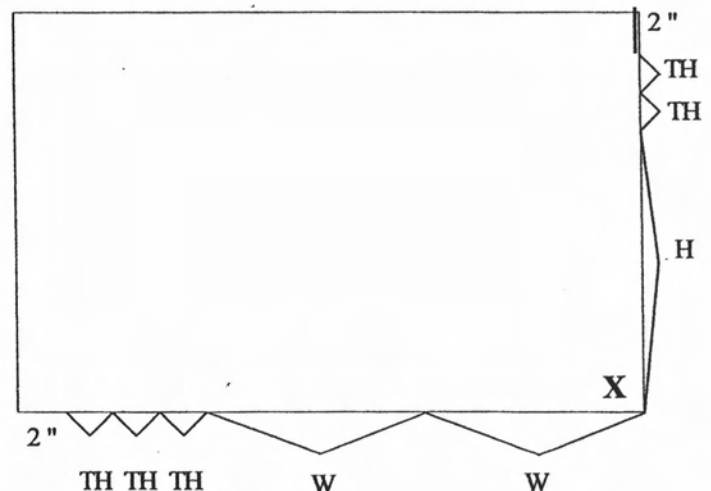


## III. TRANSFER THE MEASUREMENTS AND ROUGH CUT THE CORRUGATED BOARD

*Note:*

*Corrugations should run parallel to the height of the book.*

6. Square a piece of corrugated board and mark the squared corner with an "X".
7. Starting at the squared corner, and working to the left, mark 2 widths (W) of the book, plus 3 thicknesses (TH), plus about 2".
8. Again starting at the squared corner and working upwards, mark 1 height, plus 2 thicknesses (TH), plus about 2".
9. Cut the board to size, trimming off excess on board shear.



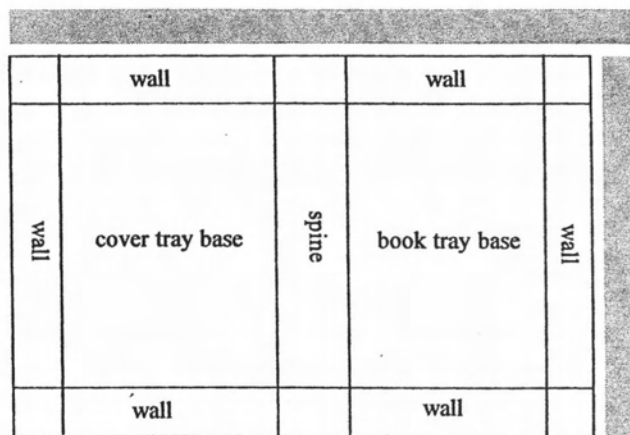
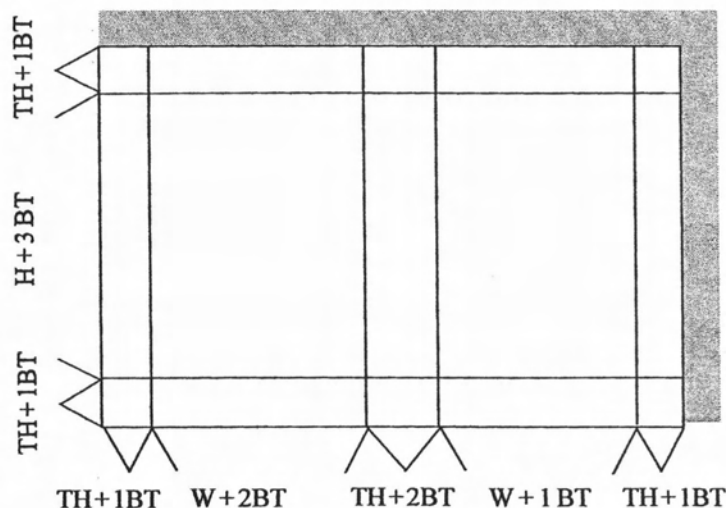
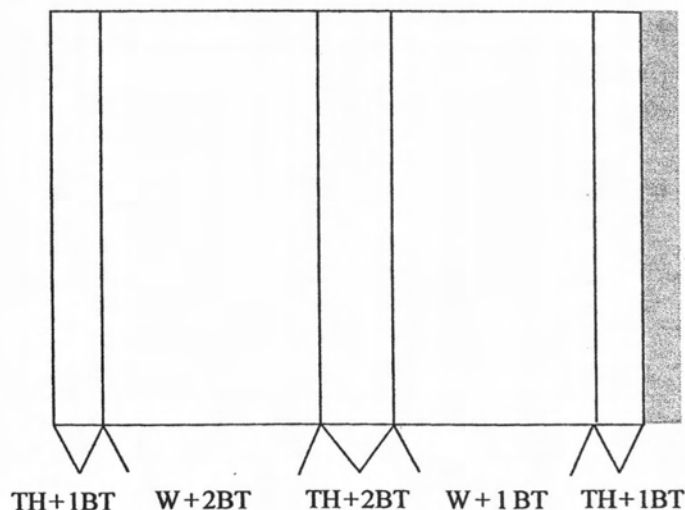
## IV. LAYING OUT CUTTING AND FOLDING LINES

### VERTICAL MEASUREMENTS

10. Starting at the bottom left hand corner, mark 1 thickness (TH) of the book plus 1 BT. This is the thickness of the cover tray wall.
11. Next mark 1 book width (W) plus 2 BT's. This is the width of the cover tray base.
12. Mark 1 book thickness (TH) plus 2 BT. This is the thickness of the spine.
13. Mark the width (W) of the book plus 1 BT. This is the width of the book tray base.
14. Finally mark another book thickness (TH) plus 1 BT to determine the book tray wall.
15. Draw pencil lines using a triangle or carpenters square.

### HORIZONTAL MEASUREMENTS

16. Starting at the bottom left hand corner and working upward, mark 1 book thickness (TH) plus 1 BT. This is the thickness of the lower cover tray wall.
17. Mark 1 book height (H) plus 3 BT's for the height of the cover tray base.
18. Mark 1 book thickness (TH) plus 1 BT for the thickness of the upper cover tray wall.
19. Draw pencil lines using a triangle or carpenters square.
20. Cut the board to size, trimming off excess on board shear.

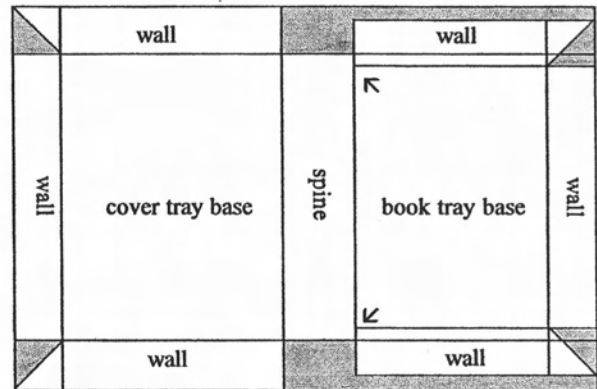
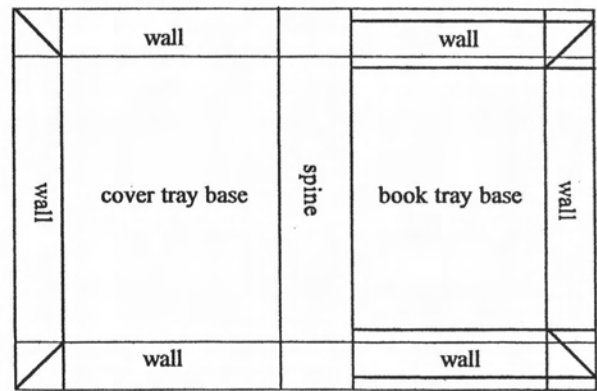


## V. DECREASING BOOK TRAY AND CUTTING OUT SHADED AREAS

*Note:*

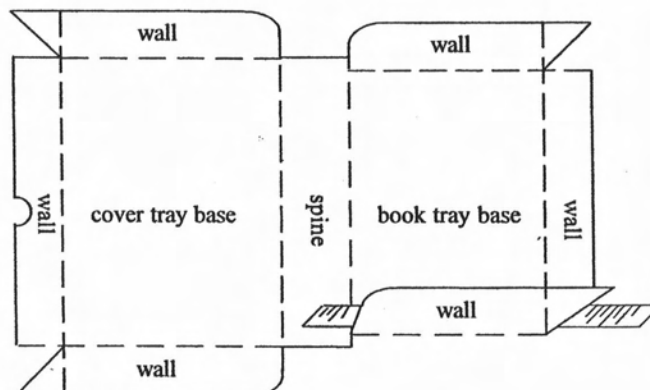
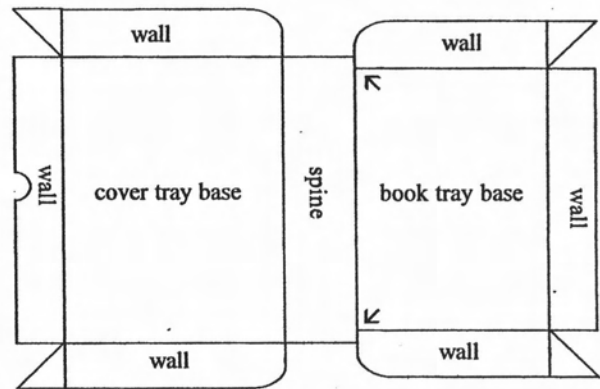
*The book tray must be smaller than the cover tray so it can nest inside when the box is closed.*

21. To decrease the book tray base, use the BT jig and move the upper and lower book tray wall lines inwards by 1 BT .
22. Draw diagonal lines from outer corners of the tray bases to corners of walls.
23. Cut away shaded areas with a mat knife.
24. Extend the cuts on the book tray side of the spine to the new shortened book tray base lines. See arrows.
25. Round the corners of the top and bottom walls of both trays and cut a thumb notch on the cover tray fore edge wall. Use a gouge and mallet or scissors.



## VI. FOLDING AND CREASING BOX LINES

26. Using the rounded end of the bone folder, score all of the dotted lines lightly.
27. Lay a ruler along the scored lines and crease the cardboard against the ruler. Use the bone folder to sharpen the creases.

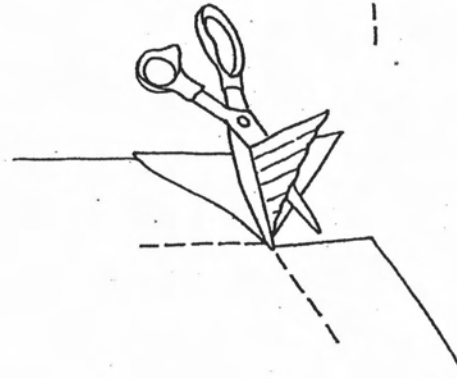
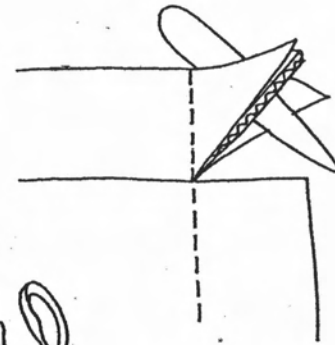


## VII. COMPLETING TRIANGULAR TABS

*Note:*

*The corrugated board is constructed of two outer layers surrounding a layer of corrugated core.*

28. Using the pointed end of the bone folder, separate the two outer layers from the corrugated core.
29. Fold the outer layers of the tabs back on the scored line. Using scissors, carefully cut away the corrugated core, leaving outer layers of the tabs intact.



## VI. GLUING CORNER TABS

30. Before gluing tabs, firmly bend and bone the folds to form straight walls.
31. Use PVA to glue the corner tabs in place. Push the inner tabs into the corner joints.
32. Use binders' clips to hold the tabs in place while they dry.
33. Label the spine, place the book into the box and close.

